fingernail, so that the labour of manufacturing even a large vessel was comparatively slight, never requiring more than a few days. We saw no pots made of any other material, but from Prince Albert Sound we obtained two lamps, one fashioned from a red sandstone, the other from an igneous rock, that could hardly have been hollowed out with adzes in the ordinary way, but must have been shaped by some pecking and grinding process. Their owners knew nothing about their manufacture, and there is good reason to believe that they were not made by the Copper Eskimo, but came in from Hudson Bay.[1]

As stated in the introduction, the natives considered their amygdaloidal copper,[2] which took the place of stone, bone, or ivory in so many of their implements, as merely a peculiar stone that they could work into shape, cold, by hammering with boulders and pebbles (Figure 1). Whether they were able to drill copper before they obtained iron is uncertain; if so, they must have used stone- or copper-pointed drills. In our time they still retained one or two of these copper-pointed drills, but used them, so far as we observed, only on bone, antler, and wood.

Figure 2. Lamp of galena, used for marking skins. IV.D.[illegible]. 1/1.

The only important mineral besides copper was iron pyrites, which the Eskimo gathered mainly in the beds of two streams, Kugaluk River in the southwest of Victoria Island and a creek a few miles east of Coppermine River. There were other sources, however, that I failed to record. This mineral served the natives instead of flint and steel for striking fire. They possessed also a few fragments of galena (Figure 2) and litharge, which they used for marking skin and wood; the galena came mostly from Galena Point in Bathurst Inlet, but the source, or sources, of the litharge is not known.

BONE, ANTLER, HORN, IVORY

The caribou and the musk-ox supplied nearly all the bone that the Copper Eskimo required, although for shoeing the runners of their sleds they used rib bones from occasional whales that drifted up on their shores. There was hardly a bone in the two land animals that could not be turned to some purpose. Leg bones were in special demand for skin stretchers, for needle-cases, and for sheathing the wooden ends of harpoon shafts; another type of skin stretcher was fashioned from a caribou or musk-ox shoulder blade. The ribs served for handles of various kinds, for small toggles, pins, and bows for the drilling set. Other toggles were made from the breast or pelvic bones, and the astragalus provided a ready made mouthpiece for the drill.

The caribou alone provided antler, which was just as useful as bone, and interchangeable with that material for most purposes. On the other hand, ivory, which Eskimo elsewhere often substituted for bone and antler, was extremely rare, because neither the narwhal nor the walrus frequents the waters adjacent to the Copper Eskimo territory; consequently, the few ivory objects we saw among the natives almost certainly reached them by trade from the east or the west. Sheep likewise were absent, so that all the horn in use came from the musk-ox. This horn sometimes took the place of bone or antler, but it was especially prized for the manufacture of ladles, scoops, drinking horns, toggles for the sled, and hammers for pounding blubber.

Originally the Copper Eskimo used only four tools, all with copper blades, for shaping bone, antler, and horn, viz., the adze, the whittling knife, the grooving

[1] See p. [illegible].
[2] For the sources of this copper see Reports of the Canadian Arctic Expedition, vol. XII, pt. A, p. [illegible]; vol. XI, pt. A, p. [illegible] et seq.

tool, and the drill. In our time nearly all these tools had steel or iron blades, and a fifth had been added, a small saw with a blade of hoop iron. Saws were not numerous, however, and it was still a common sight to see a native scoring deep cuts in bone or antler with his grooving tool and then breaking out sections with his adze. The curved whittling knife gave the final shape, and rubbing, first with stone or sand and then with a strip of hide, the smoothness and polish. Musk-ox horn alone was susceptible of a different treatment; to make from it ladles and scoops, the natives split it longitudinally, steamed it over their cooking pots, then opened it out and bent it to shape by simple pressure and hammering.

There was current among the Copper Eskimo one other substance similar to the foregoing, baleen, but it was rather scarce, and in the eastern part of the territory almost unknown. Whether it came from stranded whales, or was brought in from the west, I did not discover. The natives used it, apparently, for fishing lines only, lines mainly for catching tomcod during the winter months when the more usual lines of sinew tended to become brittle with encrusted ice. I never saw them cut or split baleen, but doubtless they used the whittling knife for this purpose.

HIDES AND SINEW

It is hard for the civilized inhabitant of a warmer country to realize the immense importance of skins in the domestic economy of the Copper Eskimo. They provide him with clothes and bedding throughout both winter and summer, bags in which to store his clothing, a tent for use nearly half the year when a snow-hut was either uncomfortable or impossible, a cover for his kayak, straps and lashings for his sled, harnesses and traces for the dogs, lines and lashings for harpoons and other weapons, packing lines, dog packs, water buckets, poke for meat and blubber, and other articles for which Europeans utilize cloth, rope, or metal. It was, consequently, of the utmost importance to the native that he should know how to treat skins to the best advantage. Fortunately, the two animals on which he depended most for his food, the seal and the caribou, were precisely the ones whose hides were the most useful.

Seal Skins. The Copper Eskimo had two methods of skinning a seal. They generally made a cut around the base of each flipper, another around the neck, and a third down the belly, after which they separated the skin from the blubber with a knife. As it was impossible to remove all the blubber in this way, the skin was then soaked in warm water. Holding one end in her mouth while the other remained in the pot, the woman (for the work almost invariably fell on the housewife) scraped it thoroughly with her curved knife. As soon as the weather was warm enough she set it out to dry, sometimes on top of the house, sometimes on the ground, sometimes pegged over and around a block of snow.

A sealskin thus dried was roughly oval in shape and still retained the hair on the outside. If you folded in the ends, doubled it over and tied a line to each end, you had the common Copper Eskimo fishing bag; if you laced each end across through the holes by which it was pegged out, you had a dog pack, broad and flat in the middle where it rested on the animal's back, and bag-shaped at each end for holding the meat or clothing. The hair was no disadvantage in such skins; indeed, for raincoats and for spring foot gear it was indispensable, but as the skin was more supple without it, it was generally removed by resoaking in warm water and scraping with a knife. To soften the skin still more, and to change the outer surface from a dark colour to white, it was subjected to further scraping, and, after drying, rubbed between the hands and chewed between the teeth, when odd scraps that came away found lodging in the chewer's stomach. From these creamy white skins were made the sealskin

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Figure 31. Buttons for the backs of men's coats; a: of boiled albumen, IV.D.810, 1/1; b: of bone, IV.D.1008, 2/1.

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Figure 32. Caribou-fur headdress with claw pendants. IV.D.62. 1/4.

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Women occasionally strung a row of small bones (Figure 39) or of caribou incisor teeth across the fronts of their coats, but other appendages to their clothing were not so much ornaments as charms. Every mother who carried a baby sewed to her coat some object that she conceived would make the child a skilful hunter or an efficient housewife when it grew up; and she transferred it to the child's clothing as soon as it was old enough to run about. The commonest of these charms were small bones or pieces of fur from a caribou or seal that had been killed by a near relative, e.g., an uncle or a grandfather. Thus, the combination coat and trousers of one little boy carried a string of caribou fur on the chest and another on the back of the left shoulder. Another child wore on his belt a strip of fur from the forehead of a caribou; to the coat-shoulder of a third were sewn three or four feathers from the tail of a redpoll; and a fourth dangled a tern's bill from his back.

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Figure 39. Chain of fox bones from the front of woman's coat. IV.D.371. 1/2.

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The bone (rarely wood) belt toggle might perhaps be regarded as an ornament, because though generally invisible, it was often decorated with incised lines (Figure 40). A very small toggle on one child's belt (Figure 41) was perforated from side to side, and so closely resembled the toggles attached to needle-cases that it may have been diverted from its original purpose.

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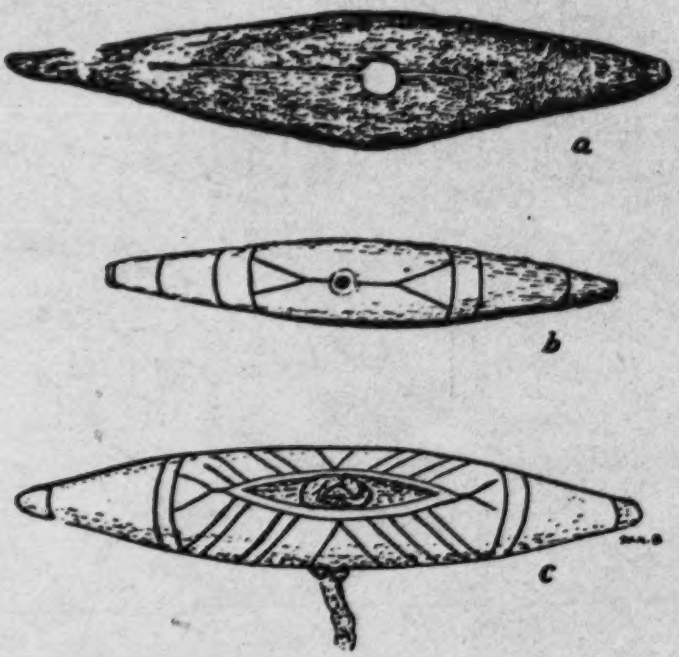

Figure 40. Women's belt toggles. IV.D.1272, 844. 1/1.

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For a time I fancied that belt toggles could be distinguished from the toggles used for hauling seals (Figure 150) by the direction of the line-hole, but my collection of both kinds showed that any such distinction was illusory; in both, the hole was drilled indifferently from top to bottom or from side to side. It is probable, indeed, that many a toggle that served for hauling seals during the winter months became a belt toggle when the sealing season ended. At all events, I know of no criterion for separating the two except that if a toggle is of wood, or if its hole is of very small diameter, it probably terminated a belt strap and was not used for sealing.

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Figure 41. Toggle from child's belt. IV.D.213. 1/1.

Combs and Snow Goggles. Though not strictly ornaments, these may conveniently find a place under that heading. Combs were not very highly regarded by the Copper Eskimo. Many women employed their fingers instead, and those who did possess combs used them only rarely. All that I saw were made of bone, and seldom exceeded 4 inches in length.

bone, and seldom exceeded 4 inches in length. The teeth, which generally numbered from five to seven, were cut with the man's grooving tool, and a hole was nearly always drilled in the upper end for attaching the article to the needle-case. Most combs were simply cut off in a blunt point at the top, and though at times this shape was slightly modified, there was never any attempt at ornamental carving. Even the surface was rarely etched, and then only with two or three straight lines or with the ring-and-dot pattern. Typical specimens are shown in Figure 42.

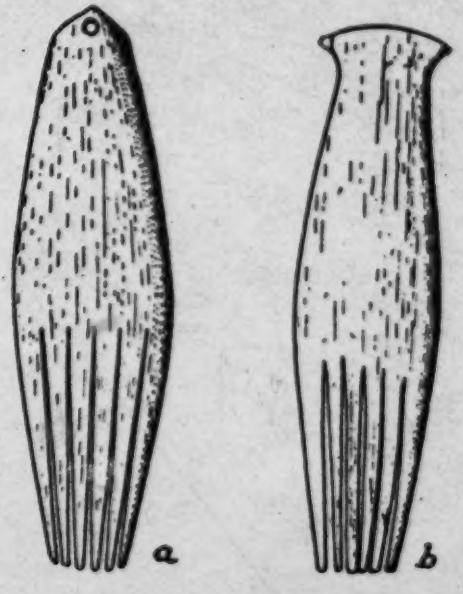

Figure 42. Women's combs. IV.D.1863, 898. 1/1.

Snow goggles (Figure 43), made of wood or antler, had the shape usual among all Eskimos. Projecting brow-pieces to intercept light from above were not uncommon. The cord was of sinew or sealskin. The slits were of even width, rarely widened at the inner end as in many goggles from Hudson Bay. Ornamentation was absent.[1]

Tattooing. The appearance of the women was greatly affected by tattooing. Only two men were seen with tattoo marks, which in both cases consisted of two short lines across the bridge of the nose. The marks on one man, a native from Coppermine River, had no significance that I could discover. He stated himself that they were due to an arbitrary whim, but I strongly suspect that

[1] See Plate VI in Report of the Canadian Arctic Expedition, vol. XII, pt. B, p. 76B.

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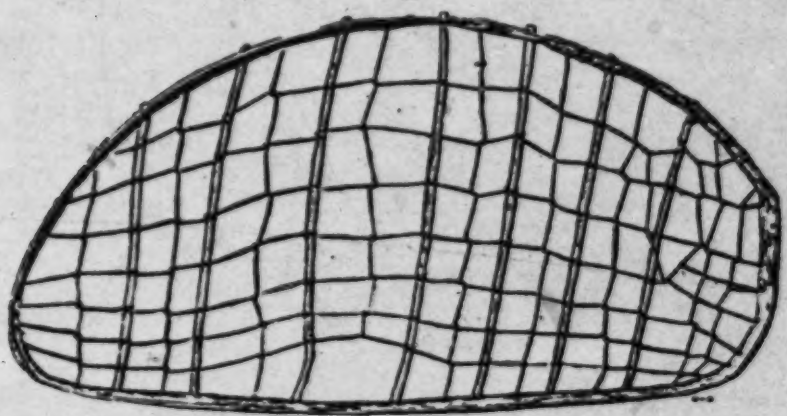

Figure 62. Drying frame. IV.D.647. Approx. 1/14.

BLUBBER POUNDERS

Although a stone or any convenient implement might be used in an emergency to pound the blubber for the lamp, every household possessed at least one, and often two or three implements especially made for this purpose. It was invariably of musk-ox horn, curved evenly almost to a semicircle. The handle was flattened on the sides, and had three or, more usually, four grooves on the under surface to fit the fingers; rarely it ended in a small knob. In size it varied from children's toys 2 or 3 inches long to specimens of 11 inches; the average household size was around 8 inches (Figure 63). Ornamentation was rare, but one specimen in the possession of the Museum (IV. D 1611) has etched into its surface the ring-and-dot design and three parallel lines.

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These Copper Eskimo blubber pounders of musk-ox horn differ slightly from the Netchilik specimen figured by Boas.[1] The latter have for the first finger a deep notch that seems to form almost a right angle, sharply dividing the hammer end from the handle. All the Copper Eskimo specimens that I have seen bear rounded grooves only, so that their form is much more graceful. Blubber pounders were used in west and northwest Greenland,[2] and probably also both in Mackenzie delta and in Alaska. The typical West

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Figure 63. Blubber pounders, of musk-ox horn, the smallest a toy only. IV.D.[illegible], [illegible], [illegible]. Approx. 3/8.

[1] Boas, F.: Eskimo of Baffin Island and Hudson Bay; Anth. Papers, Am. Mus. Nat. Hist., vol. XV, [illegible], p. [illegible].
[2] Thalbitzer, William: Meddelelser om Grønland, vol. [illegible], p. [illegible].

321 Greenland implement seems to have been made of antler, the heavy base at right
412 angles to the prong forming the hammer head.[1] For Mackenzie delta and Alaska
our information is less certain, but some bone-headed mallets figured by
372 Murdoch,[2] were probably used for pounding blubber; they are mounted on
171 wooden handles like the ordinary stone-headed mallet from this region. The
Museum possesses a stone mallet (IX.F.223), unmounted, from Barrow that
was said to have been used for pounding blubber.

321 The blubber pounder made of musk-ox horn is evidently a special product
of the central regions, where alone, except for the uninhabited northern archi-
412 pelago and North Greenland, the musk-ox has persisted down to the present
372 day. The convenient shape and weight of the natural horn doubtless suggested
174 its use for this purpose; and the grooving of the handle for the fingers was
[171] already practised with certain other tools, such as the marline-spike for the
back-lashings of the bow.

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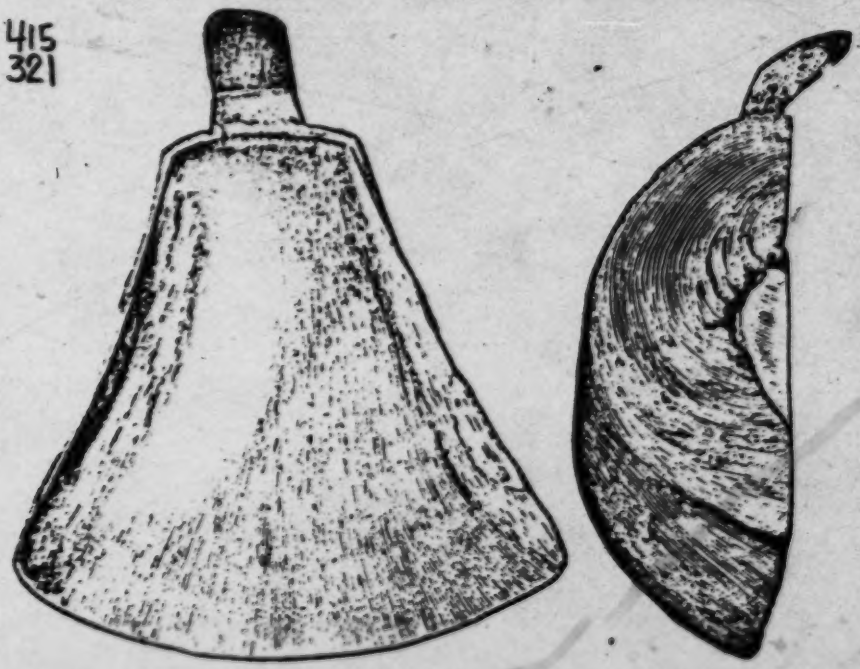

Figure 64. Drinking ladle, of musk-ox horn. IV.D.1459. Approx. 1/2.

LADLES AND DRINKING HORNS

Drinking ladles of musk-ox horn were indispensable to every household, but never carried by hunters in the field. Their usual shape is illustrated in Figure 64. In size they varied from children's toys 4 or 5 cm. long (often made of

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[1] Birket-Smith, Kaj.: Ethnography of the Egedesminde District; Medd. om. Grøn., vol. LXVI, fig. 16.
[2] Murdoch, John: Ninth Annual Report of the Bureau of American Ethnology; Smith. Inst., pp. 97-98.

wood) (Figure 65) to large dippers 25 cm. long and 21 cm. wide at the outer rim. Another common type was long and narrow, almost rectangular, like the specimen shown in Figure 66; and between this type and the former there were gradations of every kind. Most specimens were slightly flattened on the bottom to prevent them from tipping over.

Figure 65. Toy wooden ladle. IV.D.139a. 1/1.

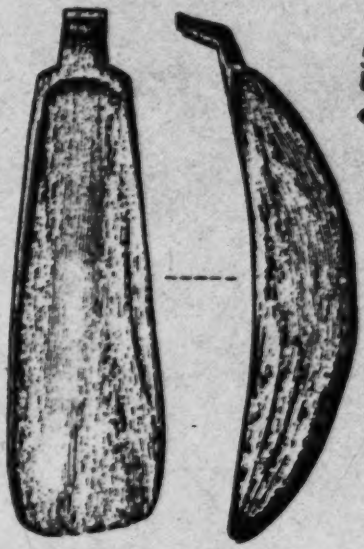

Figure 66. Narrow ladle, of musk-ox horn. IV.D.168. 1/2.

Much less common than either of these two types was the drinking horn, where the small end was either cut off and plugged with bone or wood (Figure 67), or else curved back to provide a handle (Figure 68).

Figure 67. Drinking horn, of musk-ox horn. IV.D.1828. 2/3.

Nearly all ladles had the short handles slightly upturned. Often it was found easier to make this part separate, and to attach it to a short extension of the bowl with pegs of copper, bone, horn, or antler (Figure 69). Cracks and holes in the bowl, and broken edges, were patched in a similar manner (Figure 70).

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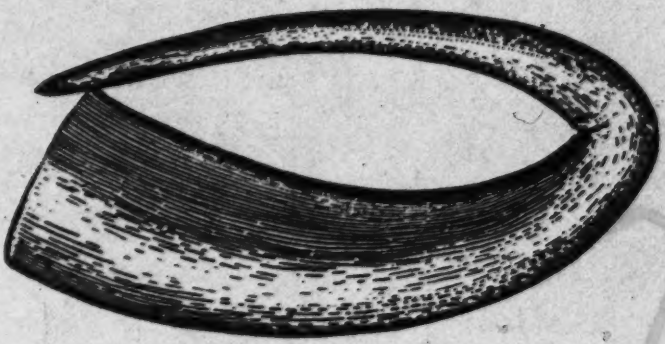

Figure 68. Drinking horn, of muskox horn. IV.D.1638. 2/3.

Figure 69. Ladle, of muskox horn, with jointed handle. IV.D.1668. 1/1.

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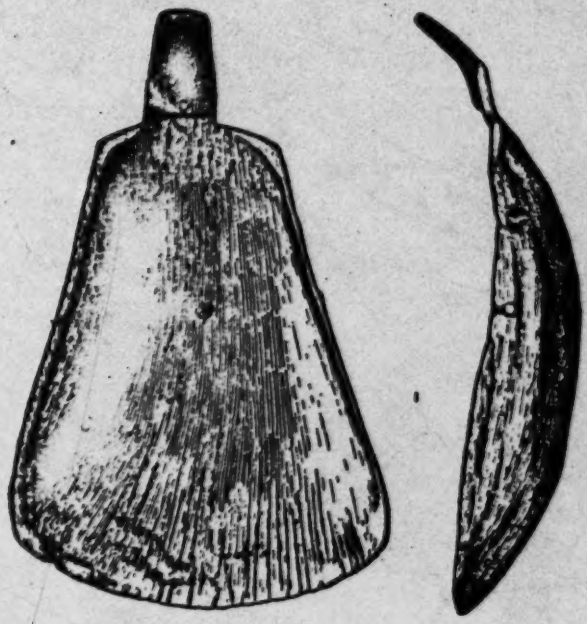

Figure 70. Repaired ladle. IV.D.444. 1/2.

WOODEN DISHES

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The wooden dishes for holding meat and blubber ranged in size from 5 or 6 inches to almost 2 feet. Some were round, with hollowed, saucer-like bottoms; they were made by curving a thin slat of spruce wood into a circle, joining the two ends with bone or copper rivets, and mortising in the bottom (Figure 71). Other dishes, made in exactly the same way, were oval instead of round (Figure 72). Besides these two forms there were oblong dishes with sloping sides, made by hollowing out a solid block of wood with the adze and the knife (Figure 73). I saw no baleen dishes such as are common in other parts of the Arctic.

Figure 71. Round dish, made from two pieces of wood. IV.D.617. 1/2.

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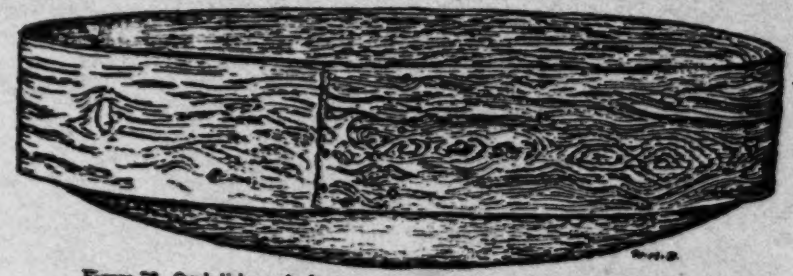

Figure 72. Oval dish, made from two pieces of wood. IV.D.625. Approx. 1/4.

Figure 73. Dish hollowed from one piece of wood. IV.D.626. 1/4.

WATER BUCKETS

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281 The bucket for carrying water (Figure 74) was made from tanned sealskin, and fitted with a strap handle of the same material. Its usual capacity was slightly over a gallon. The vessel lasted much longer than might have been expected, because holes and small rents could be quickly patched without impairing its tightness. As with our canvas buckets, ice that formed on the inside was broken loose by hammering on the outside with a stick.

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171] When travelling in winter, a few Eskimos carried on the back, under the clothing, a cylindrical water bottle (Figure 75) made from the gullet of a seal. The stopper was a wooden plug lashed inside the mouth of the bottle. Similar "thermos" bottles were known in the eastern Arctic also.

Figure 74. Water bucket, of sealskin. IV.D.624. 1/4.

MEAT FORKS

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321 Meat forks, used for testing and removing the meat from the pot, but not for eating, were made of bone or musk-ox horn, more rarely of antler. Most were slender, tapering pencils, slightly curved, ranging in length from about 7

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to 12 inches. Often they were flattened at the broader upper end, whose edges were not infrequently serrated (Figure 76).

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Figure 75. Water bottle, made from the gullet of a seal. IV.D.281. 1/2.

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Figure 76. Bone meat forks. IV.D.501, 498. 1/2.

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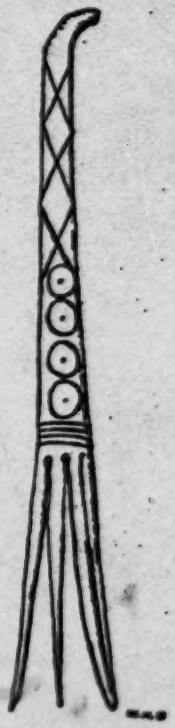

Figure 77. Meat fork, decorated. IV.D.1092. 1/2.

A very unusual meat fork obtained by Captain Bernard in Coronation Gulf is shown in Figure 77. It has four prongs, and the shaft is ornamented with incised crosses, parallel lines, and the ring-and-dot pattern. It might almost be mistaken for a peculiar kind of comb, but Captain Bernard stated that it was actually used as a fork. [531]

SNOW KNIVES OF ANTLER AND BONE

412 To chop up the blocks of snow in the cooking pot, women frequently used
a 321 a knife of antler, more rarely of bone, known as *haviuyaq*, a light, roughly made
[192] tool, two specimens of which are shown in Figure 78. Many women, however, simply used the curved knife or *ulo* for this purpose.

Figure 78. Antler knives for chopping snow. IV.D.183, 275. Approx. 1/2.

[171] These antler knives are identical with those used in the Hudson Bay area for scraping ice from kayaks, but the Copper Eskimo had little or no occasion
[462] to employ them for this purpose. A woman sometimes used one to chop snow
[342] for filling in gaps between the snow blocks while her husband completed the building of a hut, but even this was unusual.

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SNOW SHOVEL

Owing to the difficulty of procuring wood large enough for its manufacture, the snow shovel, which measured on the average 3 feet long by 18 inches wide, ranked with the table among the most precious possessions of the household. Often a native, unable to obtain one plank of proper width, resorted to splicing, and lashed two boards, one broad and one narrow, side by side. The cracks that developed in nearly all shovels were kept from spreading by similar cross-lashings of rawhide, until the average tool had as many as six or eight "splices"

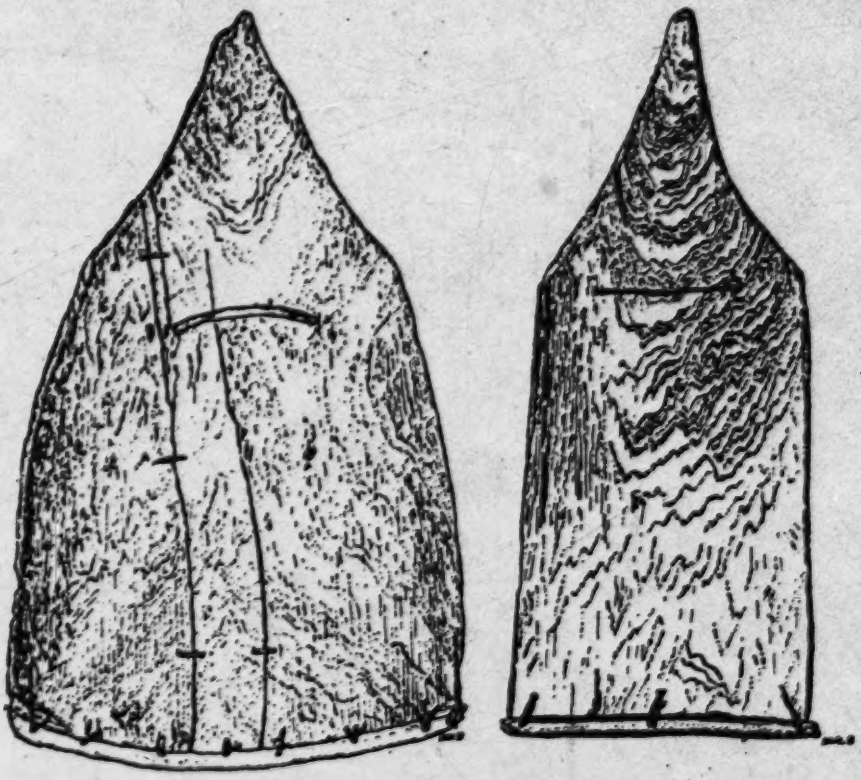

Figure 79. Snow shovels. IV.D.703, 1668. Approx. 1/8.

on its surface. At the bottom was an edging of bone (rarely ivory), securely lashed to the wood through a number of holes; and about the middle of the face was the handle, a half-hoop of antler pushed through two holes and pegged, or, more rarely, a strap of rawhide. Because this handle was liable to break through the wood, some natives strengthened the holes with bone gaskets. The general shape is illustrated in Figure 79.

CHAPTER IV

TOOLS AND WEAPONS

WOMEN'S TOOLS

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Knives. All women's knives conformed to one general pattern (Figure 82). They had a more or less curvilinear blade, formerly of copper, now of iron, a handle of bone, musk-ox horn, or antler, and a tang-like connecting piece, nearly always of bone or antler and only rarely of copper, that was attached to the blade by copper rivets, and to the handle by being driven through a slot. The edge of the blade was almost flat, but it usually curved upward sharply at each end. One specimen had a copper tang of one piece with the blade, but in all other respects it conformed to the usual pattern. Modern knives have both blade and tang of iron, fastened together with iron rivets.

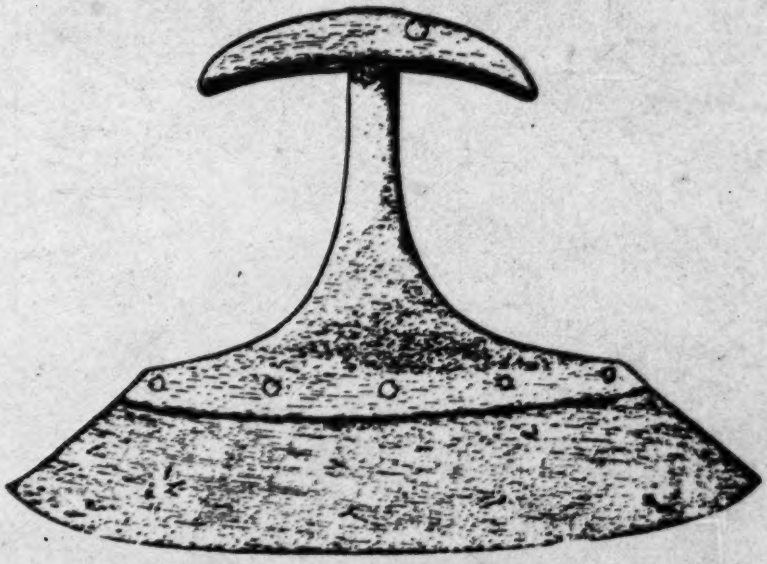

Figure 82. Typical woman's knife or ulu, with iron blade. IV.D.222. 2/3.

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From Victoria Island two specimens were obtained that differed from all others we saw in actual use. One of them is illustrated in Figure 83. It has no tang, the upper corner of the blade, which forms almost a right angle, being driven directly into the bone handle; furthermore, the edge of the blade has a very marked and regular curve. The other specimen (IV.D.1381) is similar, except that the handle is of wood. Both have large copper blades, and from their appearance are quite new. I feel certain that they were made for sale,

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The Copper Eskimo evidently experienced considerable difficulty in accurately splitting the thin base of the tang longitudinally for the insertion of the blade. Hence the tang was sometimes merely tapered flat to fit one face of the blade, through which it was riveted to an added piece of bone or antler laid on the other face. Figure 85e, which illustrates a specimen picked up on a grave, shows how this was done. When the tang itself was of copper, as in Figure 85c, it could be riveted directly to the blade without the necessity for support on the other face.

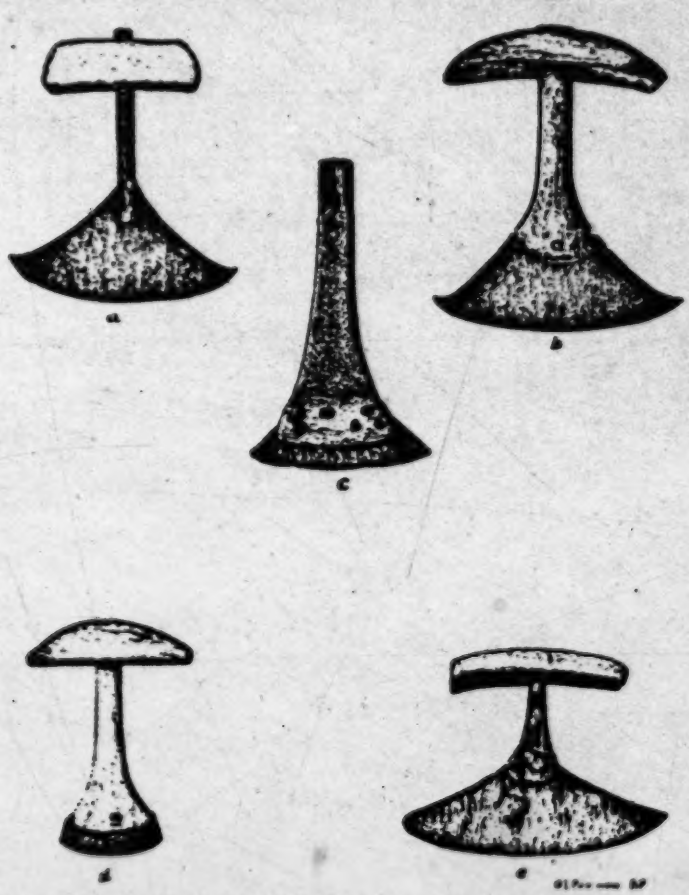

Figure 85. Women's knives, all but one (c) with iron blades, IV.D.518, 516, 572, IV.D.522; (c) with copper blade, IV.D.494. 1/2.

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Like several other Eskimo tools (e.g., skin scrapers), the women's knife was operated away from the body, thus enabling its user to see where she was cutting. The larger knives, which alone bore the name ulu, served for cutting

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meat; the smaller ones, which had a special name *qimalik*, for cutting and trimming skins. In shape, they were practically identical, except that the smaller tool often had a more rounded edge than the tool used for cutting meat.

Women's knives, like men's, often had sharpeners attached to them by a cord of sinew. The earlier sharpener was the tooth of some animal, often the molar tooth of a musk-ox or bear; or a whetstone made from sandstone or other gritty rock; or a stick of copper mounted in a bone or antler handle (Figure 86). By 1914, nearly every native was using a fragment from a file, or the firing pin of an old rifle. Men generally used their sharpeners as a butcher uses his steel, but the women held the steel in the left hand and ran the edge of the blade to and fro along its surface.

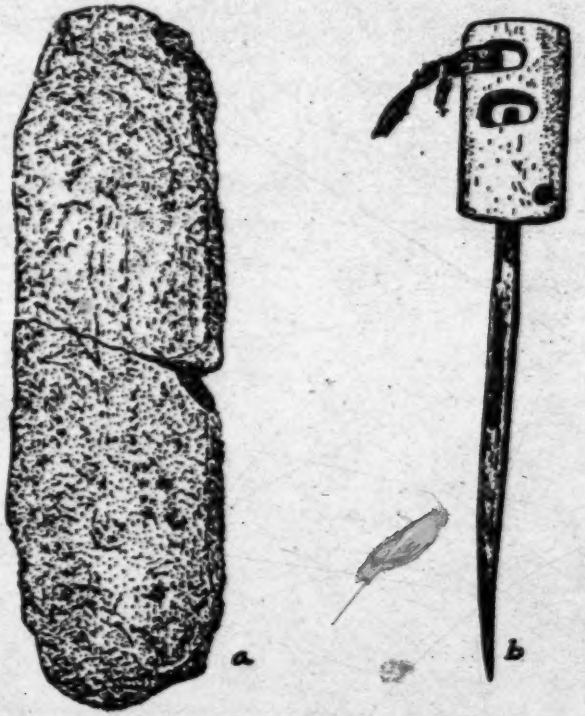

Figure 86. a: whetstone, IV.D.77; b: copper knife sharpener, IV.D.1361. 1/1.

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Skin Scrapers. The scraper used to remove the fat and inner tissue of skins had a small copper blade with a curved edge mounted on a long handle of antler. Today, in this as in other implements, iron has taken the place of copper. The handle was nearly always forked, the branch-prong preventing the hand from sliding forward. Most specimens had also a notch for the forefinger cut in the under side. Figure 87c shows a typical specimen; its iron blade is fastened by two copper rivets to the handle, which has been flattened on its lower face. Its prototype with a copper blade is shown in Figure 88.

412 321 325 [414] When a pronged antler was not available, the natives often made an artificial prong. Thus Figure 87b illustrates a copper-bladed scraper with an antler peg driven into a handle of the same material; a groove on the under side of the handle seems to indicate that it was used as the top piece of a bow-drill. The workmanship in the specimen illustrated in Figure 87a is much more careful. This scraper also has a copper blade attached to its antler handle by means of copper rivets, and a well-made knob on the under side of the handle for a finger rest. The upper surface, however, has been neatly trimmed and fitted with a small pronged piece of antler, held securely in position with three pegs of the same material.

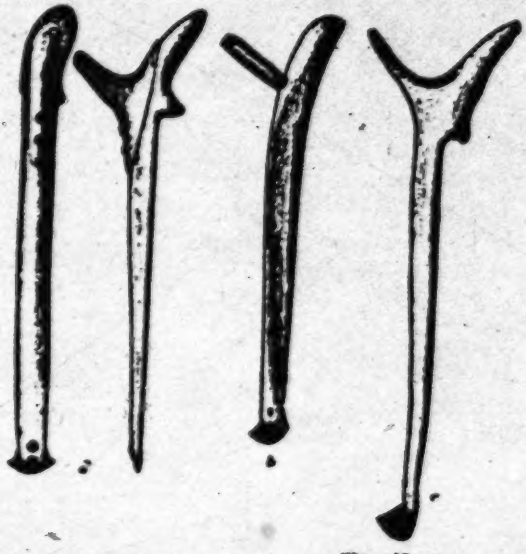

Figure 87. Skin scraper. a: IV.D.1619, and b: IV.D.1620, with copper blades; c: IV.D.448, with iron blade. Approx. 1/2.

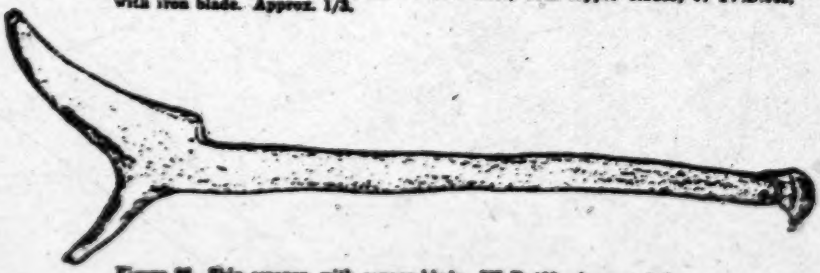

Figure 88. Skin scraper, with copper blade. IV.D.428. Approx. 1/2.

412 [192] *Skin Stretchers.* There were two names for skin stretchers, *eqtoqsium* and *aku.gun.* The words are treated as synonymous in my notes, but it is more probable that each applied only to one of the two types that are described here. Some families possessed both kinds of stretchers, others only one.

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The first kind was made from the shoulder blade of the caribou or musk-ox trimmed to the shape shown in Figure 89. The blade was generally much larger and wider than in the second type, making it more suitable for large surfaces. Specimens ranged up to 14 inches in length.

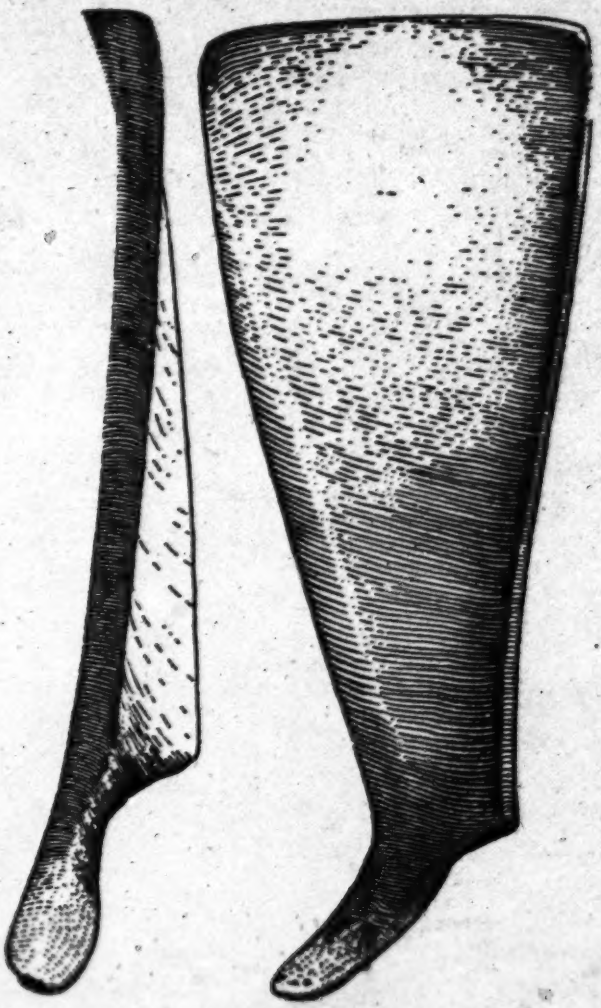

Figure 89. Skin stretcher, made from a shoulder blade. IV.D.175. 1/2.

The second kind was made from the leg bone of the same animals, which was either split all the way down the middle, or, more usually, bevelled off at

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its lower end. The upper end was usually knobbed or curved to afford a better grip. The edge of this type of stretcher was sometimes almost semicircular (Figure 90c).

There was a slight difference in the manner of holding these two types. In the stretcher made from a shoulder bone the thumb rested on the upper surface of the blade and the pressure on the hand was divided almost equally between the palm and the cleft between thumb and forefinger. In the stretcher of leg bone, on the other hand, it was the forefinger that usually rested on the blade and the friction came almost entirely on the palm.

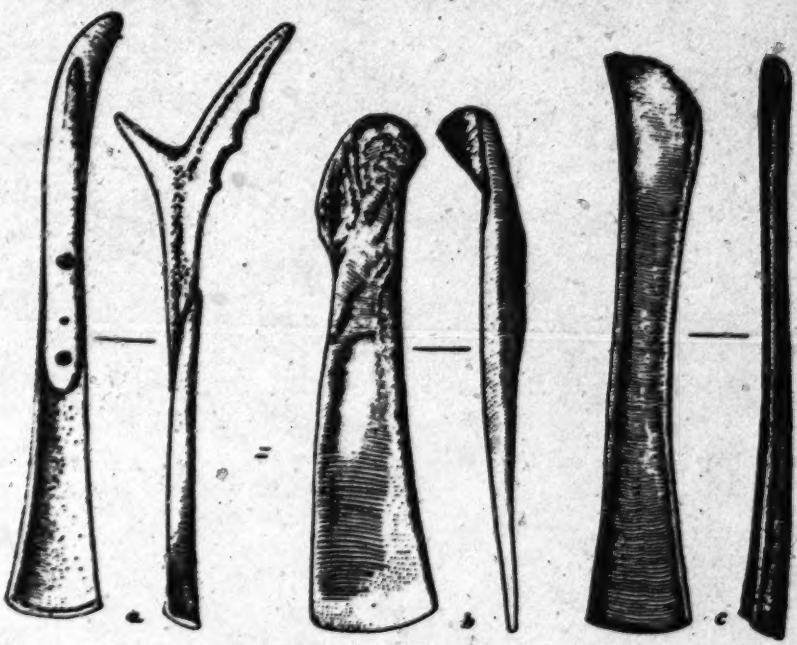

Figure 90. Skin stretchers, made from leg bones. IV.D.1622. 284. 823. Approx. 1/2.

Figure 90a shows a very unusual specimen. The blade is made from the leg bone of the musk-ox, but in order to lengthen it and give a better grip it has been attached by copper rivets to a handle of antler such as is used for the skin scraper. Another unusual feature about this specimen is that the handle is grooved to fit the fingers, like the blubber pounder and the marline-spike for the bow. It was purchased in Coronation Gulf.

The specimen shown in Figure 90b has a number of holes drilled into the handle, both at the end and on one side, which are not visible, unfortunately, in the drawing. Two of them still retain traces of hide or sinew, indicating that the end was once covered with hide to protect the hand. Usually the worker simply wore a mitten, which had the same effect.

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Sinew. All the sinew that I saw used for actual sewing came from the back of the caribou; the much coarser leg sinew was employed only for fishing

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415 very small, two of them, indeed, hardly more than an inch in diameter, serving no other purpose than to store one or two European needles. The larger baskets were sometimes provided with handles plaited square from four strands of the same willow bark.

415 412 Many women possessed no work-basket at all, but carried their sewing gear loose; when moving from place to place they merely stowed it inside a bag, a mitten, or even the household cooking pot. Their outfit was really very limited; it comprised only a needle-case, a thimble and its holder, a small knife for cutting the skins, a small cutting-out board perhaps, some sinew, and a few scraps of skin for patches. The knife has been discussed already on page 88.

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Figure 92. Needle-case and attachments. IV.D.361. 1/2.

321 415 *Needle-cases.* The ordinary needle-case was made from one of the leg bones of a caribou, usually the carpal bone, which was split, trimmed to the proper shape with a whittling knife, and ground down and smoothed with a pebble (Figures 92-97). Exposure to the weathering processes of the atmosphere

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gave these bones a dazzling whiteness, for which reason, in 1915, a young girl strung about a dozen unfinished needle-cases to a stick and left them to bleach throughout the whole summer. The final smoothness and polish came from handling.

Figure 94. Needle-cases and attachments. IV.D.494. 1/2.

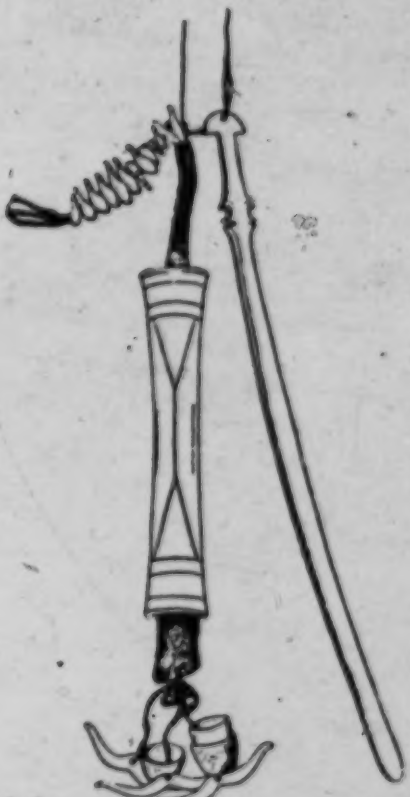

Figure 95. Needle-case and attachments. IV.D.1622. 1/2.

Quite a number of needle-cases, however, were made, not from the leg bone of the caribou, but from the wing bone of a swan, goose, or other aquatic bird (Figure 98). They were much smaller and more rounded than the ordinary needle-case, which was usually flat on one side. These smaller needle-cases of wing bone were used mainly by hunters to repair their footgear or rents in their clothing at times when the women were absent. They were then attached to the bow-case, and often contained merely a needle of the usual type and a little sinew; instead of a thimble the hunter used his teeth, and his skinning knife took the place of the proper knife for cutting skins, the *qimalik*. [224] [192]

Most needle-cases were ornamented with incised lines very similar to the tattooed lines on women. This ornamentation will be discussed in a later section. [531]

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412 *Needles.* The Copper Eskimo seemed to have no recollection of bone sewing needles, but only of needles made from their native copper. They inserted them into a narrow strip of sealskin, or more rarely caribou skin, and drew them inside the needle-case for protection.

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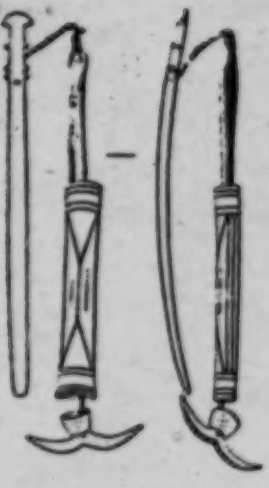

Figure 96. Needle-case and attachments, front and side view. IV.D.151. 1/2.

Figure 97. Needle-case and attachments. IV.D.336. 1/4.

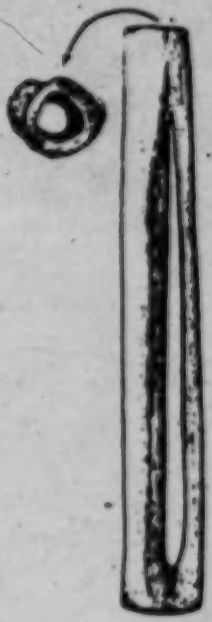

Figure 98. Hunter's needle-case, from bird bone. IV.D.387. 1/1.

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412 Copper needles had practically disappeared when we visited the country, although a considerable number were made for sale. The few genuine specimens that I have seen were nearly square in section, from 2½ to 4 inches long, and with eyes drilled from both sides (Figure 99).[1] Iron needles, hammered out in the same manner as the copper ones, were still in common use, but as most of them were too large to enter the needle-case, they were kept by their owners in a separate strip of sealskin or in a bunch of matted moss roots.

412 *Thimbles.* There were two kinds of thimbles. One was simply a cap of sealskin to cover the tip of the finger (*See* Figure 93a); when not in use it was
[281] often attached by a short thread to the sealskin that contained the needles. The
[321] other and more usual kind was made from a small bone in the foot of the caribou, or sometimes from the horn of the musk-ox. In nearly all cases the upper end was open like a ring, because only the side of the thimble was used, not the top. One variety was equally broad all around, and had tiny holes pitted over all or part of the outer surface; another variety resembled a signet ring, except that the broad surface was worn in front, not behind, and that face

[1] The copper needles collected in Coronation Gulf by Hanbury in [illegible], now in the British Museum, are square, as are also some iron needles that were collected by Rae in Repulse Bay [illegible] years earlier.

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alone was pitted with holes. With constant usage the pits soon perforated right through the bone, when the thimble, ceasing to protect the finger, was thrown away. When steel needles were introduced the wear on the thimble was much greater than with the soft copper needles; consequently, there was quite a demand for metal thimbles, which had the further merit of chafing the finger less than the old bone ones. The metal thimble was then often kept in a tightly fitting bag of skin or cloth tied to the skin containing the needles; but the old bone thimble had a special toggle that is described below.

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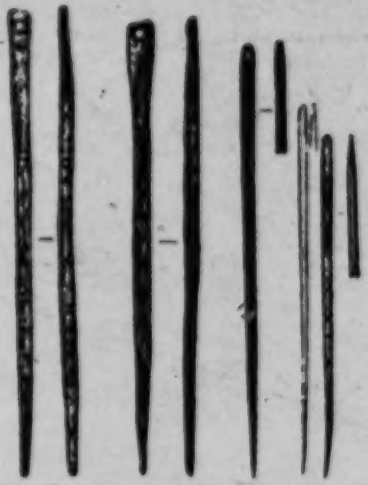

Figure 98. Copper needles. IV.D.239, 239. 1/1.

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A few thimbles are shown in Figures 100 and 101. Figure 100 illustrates the first stage in the manufacture of a bone thimble from a phalangeal bone of a caribou; Figure 101*c* gives the front view of what was perhaps the commonest variety, although this specimen is pitted on one face only; *b* is a side view of the signet-ring type; *a* is a thimble of musk-ox horn, closed at the top, possibly in imitation of European thimbles.

Figure 100. Unfinished thimble. IV.D.577. 1/1.

[192]

Thimble Holders. The thimble holder used with the open-topped bone thimbles was a small toggle made usually from the breast bone of a caribou (Figures 94-97). It always bore the same shape, which resembled somewhat the outstretched wings of a bird; but the length varied from 1¼ to 3 inches. A small hole drilled through the middle enabled it to be tied with a sinew thread to the strip of sealskin containing the needles; the thimble merely slipped on over the toggle and dangled on the thread. The toggle provided also a very convenient handle for drawing out the needles, although its name, *tikivik* or "thimble-place", indicates that this was not its primary purpose.

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Pendants to Needle-cases. A marrow spatula was generally attached to the sealskin at the end opposite to the thimble holder to help in drawing the needles inside the case, and to prevent the skin from pulling right out; but sometimes the skin was merely left larger at this end, or carried a button, shaped like the

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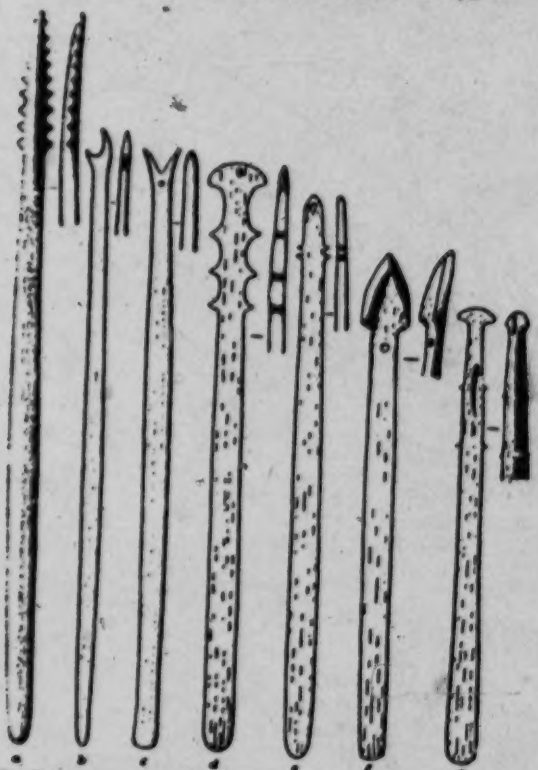
a b c

Figure 101. Thimbles. IV.D.[illegible], [illegible], 477. 2/1.



a b c d e f g

Figure 102. Bone marrow spatulæ. IV.D.549, 1425, 400, 151, 1594, 561, 1507. 1/2.

buttons on clothing. Other objects were occasionally attached to the needle-case, especially combs (*See* Figure 94). These articles were not essential to the outfit, but attached to it only for convenience or ornament. They are, therefore, discussed in other places.

Cutting-out Boards. There was no special shape to the board (*qeorvik*) used for cutting and trimming skins, provided only that it was small and flat. The women often carried a board about 6 inches long in their sewing bags. 412 281 [192]

Boot Creaser. A special implement, *tiguyaun*, "a tool to grasp", usually just a flattened stick of bone with a dull edge, was used occasionally to crease the toes of the white sealskin shoes. Most women, however, used the nail of the right thumb, and bestowed on it the magnificent name *kamitiksharariuk*, "my shoe-making tool". 412 [192]

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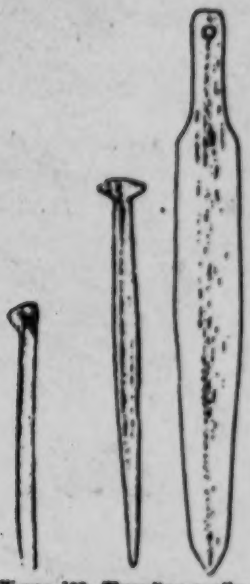

Figure 103. Threading needles. IV.D.[illegible], 151. 1/1.

Figure 104. Scissors, with blades of hoop iron. IV.D.1612. 4/5.

Marrow Spatulæ. Spatulæ for removing the marrow from the leg bones of the caribou and musk-ox were attached, as a rule, to the needle-case, or carried by hunters in the bags of their bow-cases. They varied greatly in shape, some showing a resemblance to meat skewers, others to marline-spikes; but they were less massive than the marline-spikes, and their flat, blunt points generally distinguished them from meat skewers. Nearly all were of bone, generally a caribou leg bone, but occasional specimens were of antler or even horn. The handle, drilled with a small hole when attached to the needle-case, was frequently carved into a small oval butt like the butt of the snow knife; or it was notched or serrated. There was rarely any etching of the surface, probably because the implement was too small. 412 321

A small assortment of spatulæ is shown in Figure 102. Specimen *f* in that figure is a very unusual form that would hardly have been identified as a spatula had I not seen it in actual use; it was attached to the needle-case of a

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321 young girl. The specimens attached to the needle-case in Figure 93 are considerably shorter than the average. The commonest type was perhaps that shown in Figure 95, where it is also attached to its needle-case.

412 *Threading Needles.* Small bone needles were employed for threading a cord
321 through holes in skin, especially for fastening together the front of a tent above
281 the door. In form some of these needles were practically identical with many pins used for closing the blood bag, though the latter were usually longer and terminated in a greater variety of forms. Two threading needles are shown in Figure 103.

412 *Scissors.* Probably as early as the middle of the nineteenth century the
179 idea of using scissors for cutting the hair of the head came to the Copper Eskimo
[439] from Hudson Bay natives, who acquired European scissors in trade with the Hudson's Bay Company and with whalers. Copper Eskimo specimens of fairly recent date had tin blades mounted with copper rivets on bone or antler. The best example I have seen is illustrated in Figure 104.

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Figure 105. Bone awl. IV.D.1778. 1/1.

[281] *Awls.* To punch holes in skin the Copper Eskimo used any pointed tool that was handy, e.g., the corner of the woman's knife, an arrowhead, a sealing skewer, or, occasionally, a mere splinter of bone. Specially made awls were extremely rare, but a bone one from Cambridge Bay is illustrated in Figure 105.

MEN'S TOOLS

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412 Attached to the hunter's bow-case was a special tool bag to hold spare parts
[224] for the bow and arrows, meat skewers, and other implements connected with the chase. This bag naturally became the repository at times of other tools, such as the adze, that were not directly connected with hunting. However, most men

Figure 106. Man's tool bag of caribou fur. IV.D.728. 1/3.

owned a second small tool bag of caribou or other fur (Figure 106), and two or three had wooden boxes put together with iron or copper nails. Tools like the snow sounder and the ice chisel that were too long for any of these receptacles were generally stuck into the ground outside the tent, or into the wall of the snow-hut.

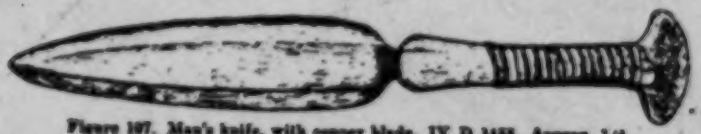

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Figure 107. Man's knife, with copper blade. IV.D.1455. Approx. 1/4.

Knives. The oldest Copper Eskimo knives of which there is any record had large copper blades, lanceolate in form and sharp on both edges. Generally the blade had a tang, which was driven into an antler handle without being riveted, but occasionally there was no tang, the blade being set in a slot and secured with a single copper rivet. The handle was sometimes of two pieces, spliced together and riveted with copper or bone pegs, and the butt was a separate piece of bone, or sometimes musk-ox horn, pegged to the handle. A lashing of sealskin or willow root, which began through a hole in the butt and was wrapped around most of the handle, afforded a better grip than the smooth antler; its loose end passed through another hole and was tucked under one or more bights. A short loop of sealskin was often added in the side of the handle so that the knife could be hung on a button of the coat, or attached to a toggle on the bow-case (Figure 107).

[414]

An excellent specimen of such a knife, collected by Captain Collinson at Cambridge Bay in 1852, is now in the Pitt-Rivers Museum at Oxford, England. Another specimen, with a rather shorter blade, collected by Lieutenant Singleton, of H.M.S. *Fox*, from an unknown locality, is in the Horniman Museum, Forest Hill, London. Others, collected by either Collinson or his colleague McClure on Victoria Island, are deposited in the British Museum. These are the oldest specimens known to me from the Copper Eskimo region. Hanbury collected several similar knives in 1902 between Ogden Bay and Coppermine River, some of which are also in the British Museum.

Even in the nineteenth century a considerable amount of iron found its way into the Copper Eskimo country and was utilized for knives. Figure 108 shows a knife made from iron secured from McClure's ship, the *Investigator*, which was abandoned on Banks Island in 1851. The blades of these early iron knives correspond as nearly as possible to the copper ones; they were lanceolate, and hammered thin on both sides toward the edges. However, early in the twentieth century, European steel knives began to drift in from the south and southeast, and soon afterwards more knives and a quantity of iron entered the country from Great Bear Lake and from the west. The natives then removed the handles from the European knives and mounted them according to their own fashion; but often they left the shape of the blade intact. Accordingly, one found iron-bladed knives that had one or both edges sharp, or else half the back edge sharp and the other half blunt. These iron blades, also, were generally mounted in a slightly different manner from the old copper knives; their tangs were riveted between plates of iron that were riveted in turn to the antler handles.

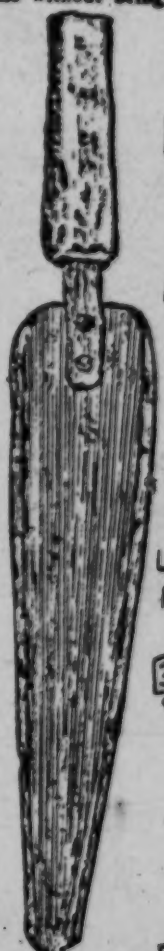

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Figure 108. Knife, made of iron from McClure's ship *Investigator*. IV. D.418. 1/2.

412 177 178 [439] By 1914 hardly a single copper-bladed knife remained in the country, except specimens that had been manufactured for sale to the first traders, like those shown in Figure 109. All the Copper Eskimo were using iron knives of various sizes and shapes, some with small blades and long handles, others with long blades and short handles, some single-edged and some two-edged (Figure 110). Specialization in types was beginning. For cutting snow, knives with long handles and long blades were accounted the most useful; for skinning caribou and seals, knives with shorter handles and blades of medium length. Some natives still preferred two-edged knives for skinning, others liked a sharp point, curved back, and a blunt back edge, as in the European hunting knife. Many men made still smaller knives for miscellaneous uses around the camp. A [439] certain number of small knives with copper blades may have been used even in the earliest days,[1] but all such specimens that I have seen, whether of iron or copper, date from the twentieth century, and the copper ones were made to sell to Europeans. Certainly the commonest type of knife in pre-European days, perhaps the only type outside the whittling knife, was the large lanceolate form commonly called the snow knife.

412 172 412 325 [129] [321] [412] [439]

Figure 109. Copper-bladed knives made for sale. a, IV.D.1261, 1/3; b, IV.D.263, approx. 1/2.

The older Thule inhabitants of the region, like those to the west and east, used a large, curved snow knife, nearly always made from whalebone. Figure 112 (IV.D.1660), however, shows a specimen obtained by Capt. J. Bernard in Coronation Gulf that is made from musk-ox horn. The local Eskimo knew its purpose, but had no recollection of ever using such a tool themselves.

Whittling Knives. Typical whittling knives (*haviro.n*) with iron blades are shown in Figure 113. Copper was used for the blade in early times, but I was able to obtain only two examples, one of which is shown in Figure 114. Here, as often with the iron-bladed whittling knives, the handle is perforated half-way along its length for the attachment of the sharpener, which was usually of steel, but in this case a small copper pencil mounted in an antler handle.

Figure 113*a* shows a fairly old specimen with a tiny blade of what seems to be hoop iron; the handle, as usual, is of antler, and the rivet in this case of copper. In the specimen represented in Figure 113*b* the handle has been extended by splicing a short additional piece of antler. The same thing has occurred in the specimen shown in Figure 113*d*, but such extensions were less usual among the Copper Eskimo than among the Eskimo to the west.

[172] [1] In 1910 Mr. Lincoln Washburn obtained a handleless copper knife blade (Figure 111) that had been picked up on Victoria Island. One surface only was covered with a green patina; the other was still coppery, though dulled. Probably the specimen is not of great age.

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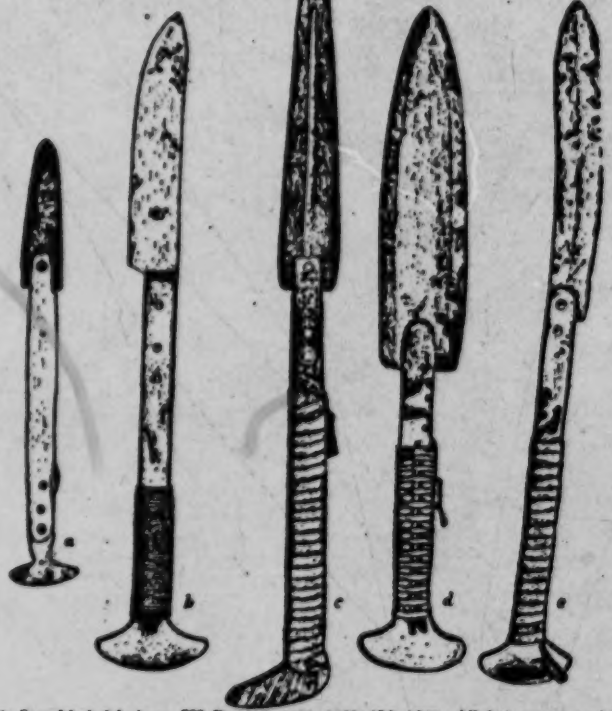

Figure 110. Iron-bladed knives. IV.D.1457, 1459, 1460, 176, 1640. All 1/4 except e which is 1/2.

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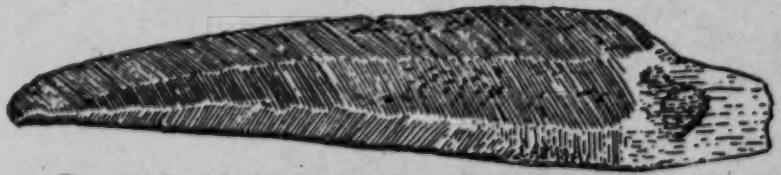

Figure 111. Copper knife-blade found on Victoria Island. IV.D.1817. Approx. 1/1.

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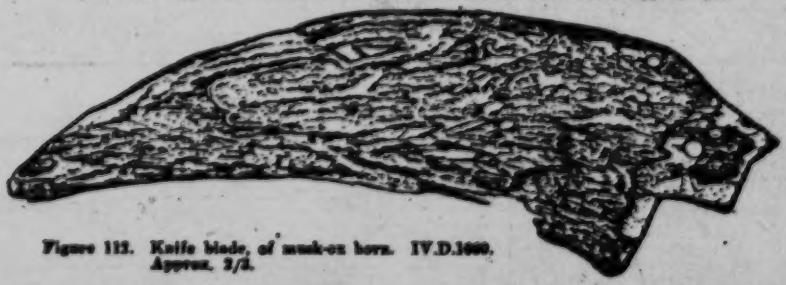

Figure 112. Knife blade, of musk-ox horn. IV.D.1660. Approx. 2/3.

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Figure 112. Whittling knives with iron blades. IV.D.1618, 172, 1488, 1269. 1/4.

Figure 114. Oil whittling knife with copper blade and copper sharpener. IV.D.1679. Approx. 1/2.

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Figure 115. Grooving tools, with iron blades. IV.D.706, 1634, 720. 1/2.

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The method of using the whittling knife in Coronation Gulf and westward differed from the Greenland method described by Porsild.[1] The Copper Eskimo held the knife low down with the hand directed inward, and the handle resting along the inner side of the forearm so that it fitted into the curve of the elbow. With the instrument thus pivoted on the elbow the forearm moved as one unit and the wrist remained perfectly still. Smaller whittling knives, even though their handles did not reach the elbow, were held in the same manner.

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Grooving Tool. The Copper Eskimo had a tool for cutting grooves in bone, antler, and horn similar in shape to the tool used by other Eskimo tribes. The blade, which was nicked at the end or else bore a sharp, pointed projection, was mounted in an antler handle of no particular shape. Sometimes the handle was split for the insertion of the blade, sometimes the blade was simply driven in with a stone, and riveted or not according to the owner's fancy. Figure 115 shows three specimens of the tool, all from Coronation Gulf; but Figure 115c is really a combination tool, because its handle served also as an arrow straightener. All three specimens have iron blades, as indeed did every grooving tool I saw in the country. Whether copper or stone preceded iron in this case I did not discover.

[325] [174]

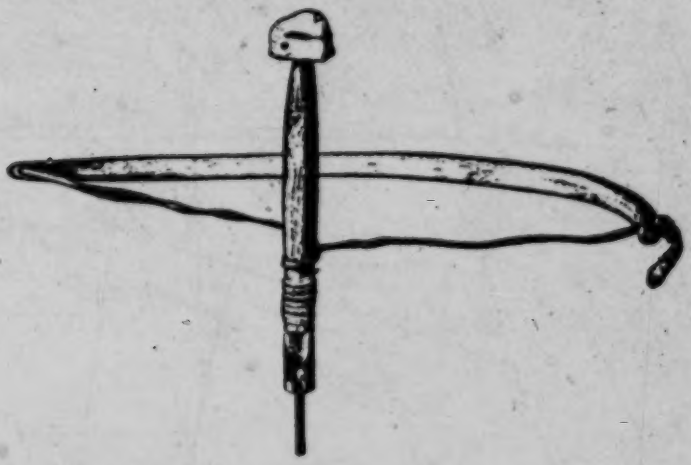

Figure 116. Drilling set. IV.D.706. 1/3.

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Drilling Sets. The Copper Eskimo used the three-piece drilling set found among other Eskimo tribes (Figure 116). The bow was of bone, generally the rib of a musk-ox or caribou; a hole was drilled in each end for the attachment of the sealskin cord. The stem or spindle was nearly always of wood, though bone was used occasionally and ivory when it was procurable. To prevent the wood from splitting, a bead of bone, antler, or musk-ox horn was added to it, either as a cap or by splicing. All the drills I saw had points of iron, which had long been current in very small quantities; copper perhaps was used earlier, and stone, although the natives seemed to have no recollection of the stone drill points.

[321] [325] [324]

[1] Porsild, M. P.: Studies on the Material Culture of the Eskimo in West Greenland; Meddelelser om Grønland, vol. LI, p. 102. [113]

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The most common mouthpiece was the astragalus of the caribou, though any piece of bone or antler, and even soapstone (Figure 117), might be shaped to serve the same purpose. When a man lacked a mouthpiece he often used the handle of his whittling knife or some other implement. The astragalus has a natural cavity of convenient size, but the rim is low on one side and the end of the spindle liable to slip out; consequently, a bone or metal peg was often inserted to raise the level of the rim in this place (Figure 118). Sometimes a small plate of copper or iron was driven into the bottom of the cavity through one side to give a hard, smooth base for the rotating spindle The latter feature may be of modern origin, but I am inclined to favour its antiquity on account of the number of specimens in which it is found, and the analogous stone sockets in other regions.

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Figure 117. Mouthpiece for drill, of soapstone. IV.D.1078. 3/2.

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Figure 118. Mouthpiece for drill, made from caribou astragalus. IV.D.296. 3/2.

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Adzes. Hearne gives the following description of Copper Eskimo adzes. "Their hatchets are made of a thick lump of copper, about five or six inches long, and from one and a half to two inches square; they are bevelled away at one end like a mortice-chisel. This is lashed into the end of a piece of wood about twelve or fourteen inches long, in such a manner as to act like an adze; in general, they are applied to the wood like a chisel, and driven in with a heavy club, instead of a mallet. Neither the weight of the tool nor the sharpness of the metal will admit of their being handled either as adze or axe, with any degree of success".[1]

[114]

[1] Hearne's Journey from Prince of Wales's Fort in Hudson's Bay to the Northern Ocean, edited by J. B. Tyrrell: The Champlain Society, Toronto, 1911, p. 191. Hearne, it should be noted, did not see these "adzes" in use. I suspect, indeed, that they were not adzes, but ice chisels.

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Figure 119*d* shows a similar specimen with a heavy steel chisel for a blade. Here, both the upper and lower surfaces of the lashing have been protected with sealskin, and the antler handle has only one large hole.

Figure 119*a* has a steel blade (part of a file) driven into a head of musk-ox horn; the end was wrapped in sealskin to wedge it securely in the socket. Five holes are drilled in the horn head, two in the handle to receive the lashing, which, as always, is of sealskin.

Figure 119*c*, which also has a steel blade, is mounted in a bone head without wedging. The head is not drilled for the lashing, but has a wide groove that answers the same purpose. The antler handle has only one large hole.

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Mattocks. Mattocks or picks of heavy bone or antler, mounted on handles like adzes, occur only as relics of the earlier whale-hunting population. Numerous specimens were noted in the ruins at Cape Kellett, on Banks Island, and one of whale rib, much weathered, was found without its handle near Forsyth Bay on Victoria Island (Figure 120). The local natives guessed its purpose correctly, though they had never seen one in use. In pattern it is identical with the mattocks I dug up at Barter Island, in northern Alaska, and with specimens from the "Thule" culture remains in Hudson Bay region.

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Figure 120. Old mattock of whale rib, found on Victoria Island. IV.D.237. 1/3.

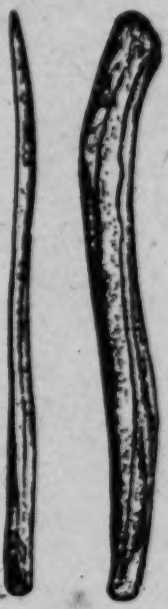

Figure 121. Mattock or pick of antler, IV.D.223. 1/4.

The typical mattock of the Copper Eskimo was simply an unmounted caribou antler with sharpened point, butt crudely shaped to give a grip, and, rarely, a projecting foot as on the handle of the man's knife (Figure 121). Any large antler, curved or straight, served the purpose, and some specimens were

hardly distinguishable from the antler knife used by the women for chopping snow; but a curving prong in which the point formed nearly an acute angle with the handle made a more efficient tool (Figure 122). 412 321

Figure 122. Curved pick of antler. IV.D.1634. 1/4.

Mattocks were seldom required except for two purposes, to secure, in the autumn, mud for plastering the runners of the sleds, and to make shallow pits where the hunter could await unseen the approaching caribou. Some families had no mattocks, but no hunter's equipment was quite complete unless he carried a short straight one in his bow-case. In fact, the usual name for a mattock was *tallulit*, i.e., a tool for making a *tallu* or hunting pit. 412 224 [493]

Snow Sounder. The main purpose of the snow sounder was to test the depth and compactness of snow with a view to the construction of a snow-hut. Hunters used it occasionally to probe the breathing holes of seals. 412 [342]

The implement was a straight, slender rod of antler[1] roughly 3 feet long, usually shod at the bottom with a peg of bone or musk-ox horn. The handle, of bone or musk-ox horn also, nearly always took the form of a round button drilled to fit the top of the rod (Figure 123). Figure 124, however, shows a specimen with a more elaborate handle. [321]

FISHING EQUIPMENT

Copper Eskimo methods of fishing have been described in Reports of the Canadian Arctic Expedition, 1913-18, vol. XII, pages 152-157. 226 113

Rods, Hooks, and Lines. There were two types of fishing rods. The first was a short stick from a foot to 18 inches long, curved at one end to form a handle, and notched at both ends to wind up the line. The Eskimo often had some difficulty in securing suitable wood for this kind of rod, wood that would bend without cracking. Hence, they frequently spliced two pieces of wood together, or a stick of wood to a handle of antler; or they even made the rod entirely of antler. With dry wood, too, the notches were very liable to break, 227 322

[1] Stefansson obtained a very unusual rod of solid copper (Anthrop. Papers, Am. Mus. Nat. Hist., vol. XIV, pt. 4, p. 69 (New York, 1919)). [113]

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especially the lower arm of the front notch, which carried the weight of the line; consequently, this notch was often built up by splicing a short projecting piece of wood to the under side of the rod. Sometimes a bone pin was inserted about the middle of the rod, on its upper surface, for shortening the line a little; for in shallow lakes the line was lowered until it touched the bottom, then raised a few inches with a turn around this pin, and fastened with a half hitch to the lower arm of the front notch.

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The second type of fishing rod was simply a straight stick also notched at each end. Usually it was a little longer than the curved variety and was especially favoured for cod fishing, though no great distinction was made between the two kinds.

Both types of rod, with all their attachments, are shown in Figures 125 and 126.

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Capt J. Bernard discovered an ancient rod of antler (Figure 127) in an old stone house on Bell Island, off the southwest coast of Victoria Island. It closely resembles Copper Eskimo specimens, though the house itself must date from the earlier Thule culture. I do not know the purpose of the holes drilled in each end.

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The common line for these rods was a stout 3-ply cord, plaited from caribou leg sinew. It varied greatly in length, but generally ran from 35 to 60 feet. The upper end was fastened in different ways, sometimes with a few half hitches around the front of the rod, sometimes by a knot at the back end; the lower end was attached to the sinker, not to the hook, because the sinker and hook were riveted together.

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For tomcod fishing in winter the western Copper Eskimo preferred a line of baleen to a sinew line, because the latter became encrusted with ice and was easily broken. These baleen lines, which could be quite short, were naturally commonest around Dolphin and Union Strait; natives farther east, who seldom or never saw a stranded whale, obtained them only by trade.

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The sinkers were of bone, antler, or musk-ox horn, most often the first two. There were two types, one for use with a comparatively small hook when fishing in the lakes for trout and salmon, the other for use with a very much longer hook for catching cod.

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The former type of sinker was usually from 1 to 2 inches long, oval in outline, flat on one face and rounded on the other. Most of them had two holes drilled through the upper end, one below the other. The end of the line then passed twice through both holes, forming a double-stranded noose, and was plaited back an inch or two from the sinker, where it was bound occasionally

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Figure 123. Snow sounder. IV.D.1084. 1/4.

Figure 124. Snow sounder with unusual handle of musk-ox horn. IV.D.116. 1/4.

with fine willow bark; many a careless fisherman, however, instead of splicing it, simply fastened it down by two or three half hitches. The same method of fastening the line was adopted when the sinker had only one hole.

The bottom of the sinker was nearly always grooved to fit the end of the hook; and often a small hole was drilled beside this groove to tie on the bait. The hook was originally of copper, but by 1914 most of the natives were using an iron hook beaten out in the same manner as the old copper one (Figure 128). Generally, it was flattened at the upper end and riveted, but occasionally it passed through a hole in the sinker and was pegged to its back (Figure 129). Iron hooks were often driven directly into the bottom of the sinker without riveting. There was never any barb, and the hook seemed extraordinarily large for the size of the fish; but it was never intended to be swallowed, as the fish was jagged in the mouth as soon as it nibbled at the bait.

The bait was usually a strip of skin and flesh from the belly of the fish, or sometimes its œsophagus. After being pushed onto the hook it was lashed to the sinker with a thread of sinew.

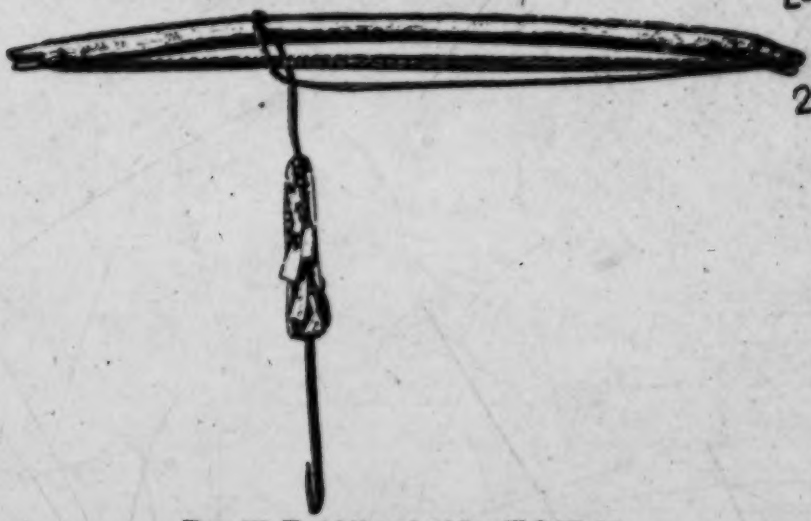

Figure 128. Wood fishing rod and line. IV.D.187. 1/4.

The sinker for cod was made from the same materials as the sinker used in lake fishing, but was generally much longer. The hook was also much longer, varying from 5 to 9 inches; but both it and the line were attached in the same manner. As no bait was used, there was no small hole at the bottom for its attachment; but three or four lures of bone or teeth, sometimes neatly shaped, were fastened at intervals to the under surface of the sinker by means of holes and sinew lashings (*See* Figure 125). Some common forms of these lures are shown in Figure 130. Often the natives dispensed with a hook altogether and used spears and a larger lure, made from a bear's tooth strung with smaller teeth or with gleaming fragments of bone that fluttered like fins in the water (Figure 131). Indeed, they caught more tomcod with their spears

[TEXT CONTINUED ON PAGE 110]

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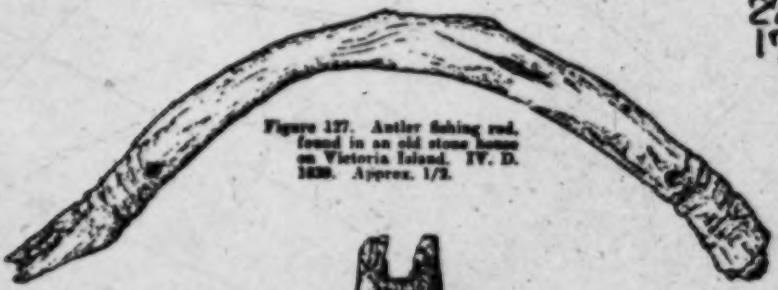

Figure 127. Antler fishing rod, found in an old stone house on Victoria Island. IV. D. 1630. Approx. 1/2.

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Figure 128. Iron fish-hook set in bone. IV.D.1655. Slightly more than 1/1.

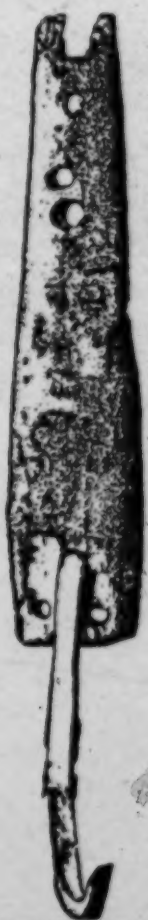

Figure 129. Copper fish-hook set in bone. IV.D.663. Slightly more than 1/1.

Figure 130. Bone lures used on trimmed fish-ing lines. IV.D.277. 1/1.

Indeed, they caught more tomcod with their spears during the winter months than with hooks. The Copper Eskimo never employed the artificial baits of stone or ivory, carved into the shape of fish, that were current among the Eskimo to the westward.

Figure 131. Lure of polar bear's tooth. IV.D.706. 3/2.

Gorges. Women, rarely men, caught a few trout and salmon with the gorge, which was merely a pointed bone wrapped inside the body of any small fish and attached by a line to the shore. Figure 132 is copied from a rough field sketch of a gorge used by a woman on Victoria Island. It was about 6 inches long, made from a splinter of caribou leg bone, and not distinguishable in any way from the needle used for stringing the salmon that were caught in weirs. I never saw a double-pointed gorge.

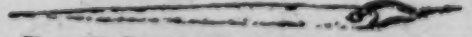

Figure 132. Bone gorge, for trout and salmon. 1/3.

Needles for Stringing Fish. Most needles used for stringing salmon at weirs were roughly shaped splinters of caribou leg bone (Figure 123), but in

one needle, 8 inches long, the splinter was mounted in a wooden handle. The line was of sealskin, generally closed at the far end with a stick of bone, antler, or wood to prevent the fish from slipping off.

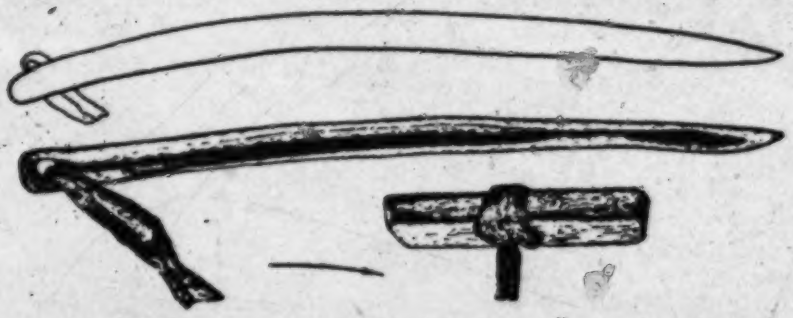

Figure 133. Bone needle for stringing fish. IV.D.681. Approx. 2/3.

Fish Bags. To pack their fish to camp the Eskimo used a bag of sealskin, commonly made by folding in the ends of a whole skin, doubling it over and tying a line to each end. The same bag, laced across, served as a dog-pack.

Fish Spears. Two varieties of fish spear were employed, the trident and the leister. The leister was preferred for spearing trout and salmon in lakes when they came to nibble at the lure, the trident for the migrating salmon that entered the weirs across streams; but generally a man used whichever weapon happened to be nearest at hand.

The shape of the leister is best seen from the illustration (Figure 134*a*). The handle was simply a long pole, split at the end to receive a barbed, occasionally barbless, point of antler, which was held in place with a lashing of sealskin, or more rarely of sinew. Two prongs facing each other, which sprang open on striking the fish, were invariably of copper or iron, copper, of course, being the original material; they were driven like nails into antler heads, which were bevelled off at the lower ends to fit corresponding ends on wooden extensions. Antler and wood were spliced with sealskin lashing, strengthened at times by bone or antler nails. The wooden extensions were then bevelled off in the same manner and lashed to the shaft, but not nailed, as low ridges at their tips prevented the lashings from slipping off. All these lashings quickly dried up from disuse, and the parts fell asunder except where they were held together by pegs. In a few leisters the side pieces were entirely of antler, not of antler and wood combined.

The trident (Figure 134*b*) resembled the leister, but had no prongs on the side pieces, which were made entirely of antler, pointed and barbed like the point in the middle. The number of barbs varied; in some cases they were directly opposite, in others staggered, both arrangements occurring at times on the same weapon.

Double-pointed spears were sometimes improvised for stabbing sculpins, or the small fish that hide under the stones on the margins of lakes. I have seen two sharpened pieces of bone, and even a European fork, lashed to the end of a walking-stick for this purpose. Naturally, they were dismantled again as soon as the need for them passed.

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227 *Fish Rakes.* The fish rake was employed at the foot of a few cascades where the salmon congregated in such numbers that no art was required for their capture.

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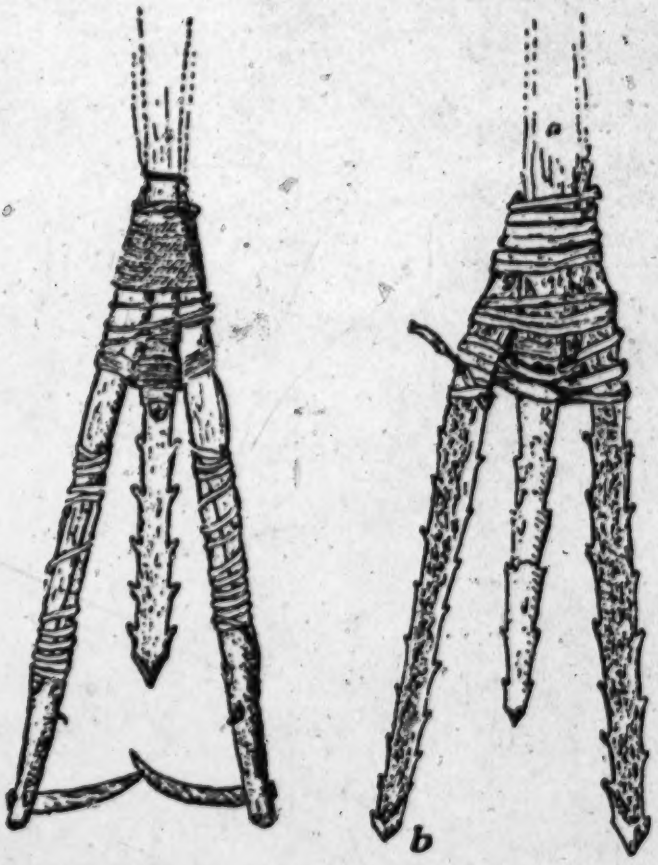

Figure 134. a, lister, IV.D.117; b, trident, IV.D.121. 1/3.

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227 Hearne, the first traveller to observe it, described its use as follows:

"The salmon at Bloody Fall, on the Coppermine river, were so numerous that when a light pole armed with a few spikes, which was the instrument the old woman used, was put under water and hauled up with a jerk, it was scarcely possible to miss them. Some of my Indians tried the method, for curiosity, with the old woman's staff, and seldom got less than two at a jerk, sometimes three or four."[1]

[1] Hearne op. cit., p. 103.

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The implement consisted of two long copper hooks driven through a piece 321
of antler at the end of a pole 4 or 6 yards in length (Figure 135). The antler, 325
bevelled off in the usual manner, was pegged to the shaft with bone or antler pins, and occasionally further secured by a sealskin lashing. The majority of

Figure 133. Fish rake with two copper prongs. IV.D.431. 1/2.

Figure 134. Fish rake with one copper prong. IV.D.693. 1/2.

Figure 137. Ice chisel, of copper set in antler. IV.D.1203. 1/4.

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rakes had two hooks from 6 to 9 inches long, but a few had three hooks and others only one (Figure 136). Wedges of bone, antler, or copper were sometimes used to prevent the hook from pulling out.

Ice Chisels. Figure 137 shows a typical chisel used to drill through ice for fishing, or to obtain drinking water. The blade is of copper, oblong in section, and bevelled to an edge on one of its narrower faces. The fore-piece is of

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412 antler, trimmed in front like a collar, and whittled down at an angle behind to
• 321 fit a long wooden handle. In this specimen the handle was attached by two bone pegs (which are still in position), supplemented by a sealskin lashing. In other specimens, especially the smaller ones, there was only one peg, and occasionally none at all, if the owner wished to use the same handle on his ice scoop or other implements. Apart from the number of pegs there was little or no variation in shape.

412 For several years after iron became readily available some of the Eskimo
325 still preferred their old copper ice chisels, because in shallow lakes the edge was often dulled through striking against the stones on the bottom, and copper was easier to hammer and grind into shape again than iron. The Copper Eskimo
[321] had no recollection of bone or ivory ice chisels, though their harpoon carried a pointed butt of bone or antler for planting the weapon upright in the snow.

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Figure 138. Ice scoops; a: of musk-ox horn; b: of bone; c: of wood edged with bone. IV.D.180, 179, 224. Approx. 3/10.

412 *Ice Scoops.* A common shape for the scoop used in clearing out the hole
321 made by the ice chisel is illustrated in Figure 138c, which shows a wooden ladle
322 with a "free-board" of bone attached by thongs of both sinew and sealskin
284 around the rim of the bowl. Some of the holes not filled with the lashing have been plugged with wood.

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Because many natives experienced difficulty in obtaining a piece of wood large enough to carve into a bowl, they often substituted a curved piece of bone or of musk-ox horn, lashed to a wooden handle. Specimens of these more or less makeshift scoops are illustrated in Figure 138, where *a* (IV.D.135) has a bowl of musk-ox horn, and *b* (IV.D.179) of bone. The handles of such scoops could be lengthened, if necessary, by lashing to the walking-stick or fish spear, for which purpose their owners often cut notches at the ends.

SEALING EQUIPMENT

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In the spring and autumn, when the seals were basking on the surface of the ice, Copper Eskimo hunters occasionally tried to crawl near enough to transfix them with their harpoons; but so slight were their chances of getting within range—unless perhaps in rough ice where there were sheltering hummocks—that most men never attempted the feat until they obtained rifles, which extended the effective distance for attack from 8 or 10 yards to 100 yards. Every man, on the other hand, and even some of the younger women, regularly tracked down the seals' breathing holes in the ice during the winter months and harpooned the animals when they rose to the surface. In midwinter, when the days were short, they started out for their hunting grounds half an hour before dawn, and did not return home until after dark. Their outfit was fairly standardised, though not always complete. Each man wore a long outer coat of thick caribou fur to protect his body from the cold. Sewn to the back of this coat was a bone button (*See* Figure 37) for the attachment of various tools, viz., a scoop to clear away the snow, bone skewers for closing the wounds in the seals, a toggle to drag them home, a spare harpoon head, and sometimes a foot-pad to protect the hunter's feet as he waited motionless, 1, 2, or even 3 hours, over the breathing hole. In his hand he carried his harpoon, the usual long, two-edged knife, and an "indicator" to warn him when a seal was rising to breathe; and from one wrist hung a special toggle that he attached to the trace of his dog. His method of hunting is described in "Life of the Copper Eskimos", Reports of the Canadian Arctic Expedition, vol. XII, pt. A, pages 112-114; here we need consider only the details of his tools and weapons.

Harpoons. The harpoon was roughly the height of a man, or from 5 feet 6 inches to 6 feet long; and it varied only in minor details (Figure 139). It contained essentially four parts—a shaft, usually of wood, but occasionally of two or more pieces of antler riveted and lashed together; a bone or antler (very rarely, copper) foreshaft that fitted into a hollow bone cap at the end of the shaft; a detachable head with a long hand line of plaited sinew;

Figure 138. Sealing harpoon. *a*: wooden shaft; *b*: bone socket-piece riveted to the shaft with copper nails; *c*: antler foreshaft; *d*: antler head; *e*: copper blade; *f*: antler butt; *g*, *h*: sinew from hand line tucked under the thong that runs along the shaft, the thong itself being held down at this point with a copper staple; *i*: hand line of braided sinew; *k*: grip of hand line. IV.D.694. 1/10.

and a pointed bone or antler butt for planting the weapon upright in the snow. The butt was merely lashed to the end of the shaft with rawhide or sinew whipping; but the bone cap at the other end was riveted with bone or copper pins through two spurs that projected down the sides of the shaft, and the tapering end of the foreshaft was firmly wedged into its hollow by a packing of skin or fur. Through a hole drilled in the shaft just below the cap passed a sealskin thong that ran tautly one-third, one-half, or three-quarters the length of the shaft and was then knotted through another hole; it served, in conjunction with a piece of sinew attached to the hand line, to hold the harpoon head against the foreshaft. At the place where the sinew tucked under it, some hunters lashed the thong tightly against the shaft with a whipping of rawhide, or held it down with a copper "staple".

All the Copper Eskimo harpoon heads I have seen had blades separate from the head, although specimens of the old Thule culture, in this area as elsewhere, sometimes have the blade and head in one piece. The older Copper Eskimo harpoon heads were made of bone or antler, and the bone or copper blade, shaped exactly like an arrow point, was invariably set horizontally in the same plane as the line holes, and secured with a single rivet of bone or copper. The butt of the head was cut aslant, giving a single sharp spur, and a circular hole was drilled for the insertion of the foreshaft. Three of these old harpoon heads are illustrated in Figure 140.

Figure 140. Old harpoon heads. *a*, *b*: bone blades; *c*: copper blade. IV.D.1838, 900, 1026. 1/2.

The introduction of iron did not change the type of the Copper Eskimo harpoon head, but only its material. At first only the blades were of iron; the heads proper continued to be made from bone and antler. By 1914, however, nearly all heads had come to be of iron, or occasionally of brass, and what seems to have been a new feature was introduced, a lengthening and bifurcation of the butt, resulting in two, stout, chisel-edged spurs, which were themselves often notched (Figure 141). This change we must probably ascribe to influences from Hudson Bay, where the spur of the ordinary sealing harpoon head has been bifurcated for several centuries. Among the Copper Eskimo every metal harpoon head that came under my notice possessed this feature, but not a single bone or antler one, except the specimen that will now be discussed.

Figure 142 shows a harpoon head without separate blade that was included in a large collection of specimens brought back by Mr. Stefansson and labelled Minto Inlet, Victoria Island. If it actually came from that district, it must

Scoops. The scoop (*ilaun*) (Figure 144) used for clearing the snow from the breathing hole of the seal had an average length of 1½ feet, and was made of musk-ox horn, mounted on a handle of horn, bone, antler, or wood. The two parts were generally spliced with a V-shaped notch, rarely by bevelling the ends and overlapping; pegs of copper or bone, and lashings of sealskin or sinew, held them firmly together. A small loop enabled the tool to be attached to the coat button; usually it passed through two holes in the handle and the ends were either tucked under the lashings around the splice or knotted. The handle tapered to a rounded point with which the hunter stabbed the eye of the seal when it was drawn to the surface.

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Figure 144. Scoop for sealing, of musk-ox horn. IV.D. 182. Approx. 1/4.

Indicators. The seal indicator and its use have been described in Reports of the Canadian Arctic Expedition, vol. XII, pt. A, page 113. Figure 145 illustrates the commoner type, the pencil of bone slightly more than a foot long, with the small bone disk at the bottom and the cord leading away to the needle that was pegged into the snow. Often, but not always, the top of the pencil, perforated for the cord, was made of a separate piece of musk-ox horn, neatly drilled, that fitted like a cap. During our residence in their territory a few natives experimented with indicators made, not from bone, but from the steel springs of some old rifle bolts; how effective they were I cannot say.

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For drawing up this indicator a few sealers used a fine hook of copper lashed with sinew to a short bone handle; a specimen is shown in Figure 146.

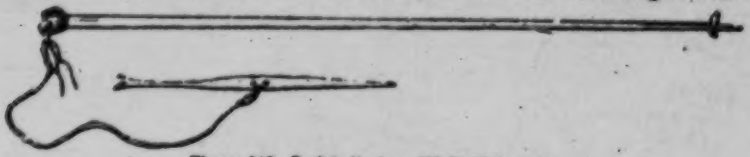

Figure 145. Seal indicator. IV.D.1818. 1/2.

Figure 146. Hook for withdrawing indicator from seal-hole. IV.D.484. Approx. 1/2.

Report of the Canadian Arctic Expedition, vol. XII, page 113, describes also a less common "indicator" made from a strip of caribou leg sinew that was slit to hold a wisp of bird's down. Unfortunately I failed to collect a specimen of this object.

Foot-pad. In midwinter many sealers carried a small square pad of caribou fur, or preferably of polar bear fur, to place under their feet when watching over the seal holes. Like the wound pins and the scoop, it hung from the button at the back of the coat, whereas the knife and the seal indicator were usually carried in the hand with the harpoon.

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Skewers for Seals. To hold his extra harpoon head, the sealer attached to the button on the back of his coat a small bag made from seal or caribou skin, or from the foot or neck of some waterfowl such as a loon or a swan. Around the outside of this bag he sewed a narrow band of skin into which he inserted three or four bone skewers for closing the wound in the seal, and one or more bone toggles with short loops for dragging it home (Figure 147). The skewers,

Figure 147. Bag for spare harpoon head, skewers, and toggles. IV.D.719. 1/2.

though knobbed at the end like the skewers used for caribou meat, usually had a slightly different shape; for the caribou skewers, which penetrated only the flesh of the animal, not its skin, were rounded down to the point, whereas the sealing skewers (Figure 148), which had to pass through the tough hide on both sides of the wound, were bevelled in such a way that they had at least two, and often four, cutting edges similar to those on a bone arrow head.

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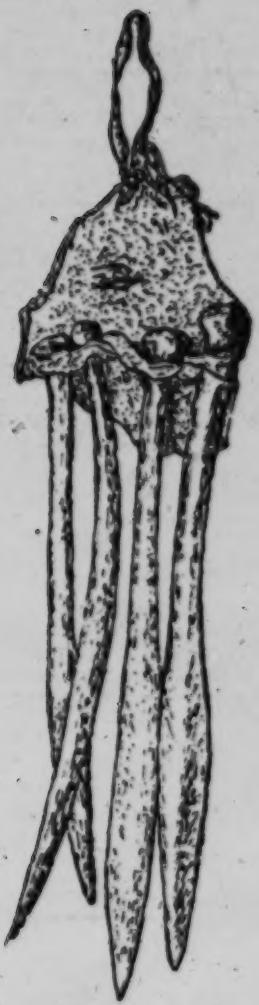

Figure 148. Bone skewers for closing wounds in seals.
IV.D.719. 2/3.

Figure 149. Toggles for leading a dog.
IV.D.155. 1/2.

All sealers carried these bone skewers stuck in a strip of skin, but not all of them burdened themselves with a bag and a spare harpoon. Lacking the bag, they merely cut a hole in the strip of skin for slipping it over the coat button.

Toggle for Leading Dog. Figure 149 illustrates the usual toggle for leading a dog to the sealing ground. In principle it is the same as the toggle on the harness. The rigid parts are of bone, antler, or musk-ox horn; the cord and strap, of sealskin or caribou leg sinew. The broad loop hung over the sealer's wrist, and the small toggle buttoned into the loop at the end of the dog trace. There was no variation except in size, and no ornamentation.

Toggles for Hauling Seals. Toggles for hauling seals were indistinguishable from women's belt toggles (See page 50). Like most of the latter they were made of bone, antler, or musk-ox horn, nearly always the first, measured between 2½ and 4 inches from tip to tip, and had the shape of a crescent that tapered towards each end. Two ends of a short cord of sealskin, or more usually of plaited sinew, were passed through the hole and knotted to form a loop (Figure 150). The sealer threaded the toggle through a hole in the seal's mouth, passed it back through the loop and attached it to the trace of his dog, which then dragged the carcass home.

Sealing toggles, like other bone implements, were often ornamented with incised lines. These will be discussed in another place.

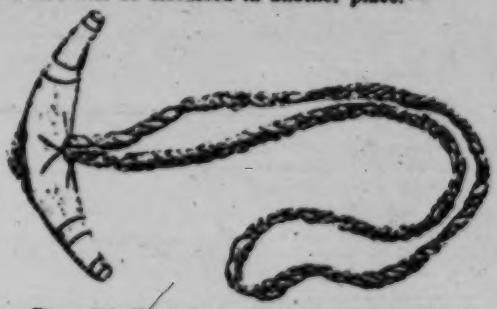

Figure 150. Toggle for hauling seals. IV.D.197. 1/2.

LAND HUNTING EQUIPMENT

Bows and Arrows

Most bows were made from three pieces of spruce wood, a middle piece and two "horns," joined together with the usual "cleft" or V splice (Figure 151*b*). Bows made from a single piece of wood were comparatively rare (Figure 151*a*), though one, owned by a 6-foot Tree River native, was stronger than any of the three-piece weapons. From the eastern end of Coronation Gulf came a few bows built up from musk-ox horn, caribou antler, or both materials combined (Figure 152), indicating a dearth of suitable wood in that region. In one of them, two pieces of musk-ox horn have been joined wth a cleft splice, but elsewhere in this bow, and in all other bows of horn or antler, the makers have used the less difficult scarfed splice, and strengthened it in places with copper or iron rivets. A few wooden bows have scarfed joints also, but they are mostly small weapons for women and children.

Because dry spruce has little tensility and easily fractures, every bow was strengthened with a score or more strands of braided sinew[1] that extended along the whole back and passed around the necks (Figure 151). Some hunters

[1] One bow, a small one for a woman or child, has thongs of rawhide, presumably from want of sinew.

411 284 [237]

combined them into two or three cables, or wound a sinew or rawhide cord around them to keep them from slipping over the edge. Strips of sealskin beneath them checked fraying, and lashings of sinew or of rawhide at the grip and joints held them firmly against the wood. Over each of the two weak places

411 322 284

411 322 284

Figure 181. Two bows, one made from a single piece of wood, the other from three pieces. IV.D.72, 1378. 1/8.

Figure 182. Bow made from musk-ox horn and antler. IV.D.1789. Approx. 1/8.

411 284 [322]

in the bow, the joints, most hunters lashed a plate of wood, bone, or antler, and some added another plate on the under side (Figure 153). As many bows were of inferior wood that required strengthening in various places, the lashings and splices on one weapon seldom corresponded exactly with those on any other. The main strength of all of them, however, lay in the back lashings, which were

28: Jenness E-5 (1914-1916) 1946
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411 284 [461] secured to the wood by a complicated series of half hitches, well illustrated by Murdoch.[1] As these back lashings slackened with frequent tension and changing weather conditions, the owner wedged little plaques of wood, skin, or bone

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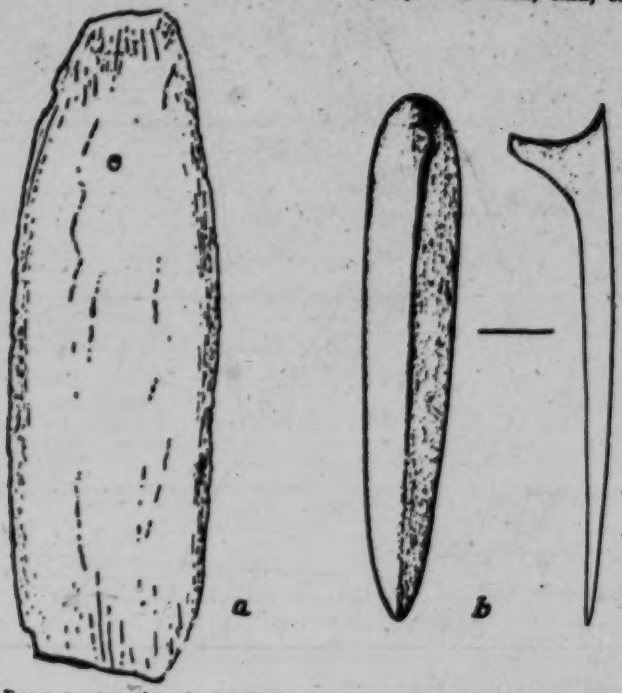

Figure 132. Braces to strengthen the joints of a bow. a: musk-ox horn; b: bone. IV.D.708, 602. 1/1.

beneath them (Figure 154), and when plaques no longer sufficed, he removed the lashings altogether and rewound them, an operation that he could perform in about an hour. Defects in the horns were more serious, but not insuperable. I [461] have seen a native strip a bow down to the bare wood, fit it with two new horns, and relash the weapon ready for use in the space of 4 hours.

411 [283] [284] [237]

411 [195] Figure 154. Plaque of rawhide, wedged under the back lashings of the bow. IV.D.79. 1/1.

The bowstring was made from five or six strands of sinew, twisted together. When stringing his weapon, the hunter sat on the ground and pushed the middle of the bow from him with his foot while pulling the horn towards him.

When the party of Indians with whom Hearne travelled in 1771 massacred some Copper Eskimo at Bloody Fall, near the mouth of Coppermine River, Hearne noticed that most of the Eskimo arrow heads bore triangular points of a slate-like stone, whereas the remainder had points of copper.[2] The Copper Eskimo we encountered were using only points of antler, bone, copper, or iron.

[113]

[1] Murdoch, John: A Study of Eskimo Bows in the U.S. National Museum: Report of the U.S. Nat. Mus., 1885, figs. 5-12.

[2] Hearne: op. cit., p. 188.

per, or iron. They claimed that their forefathers had never used points of stone and ascribed such specimens as they picked up in their country. (See Figure 155) to a still earlier people. Thus, it would seem that in the short space of 100 years stone points had passed out of both use and memory.

Figure 155. Two rubbed stone points picked up on the surface of the ground in Coronation Gulf. IV.D.807, 1927. 1/1.

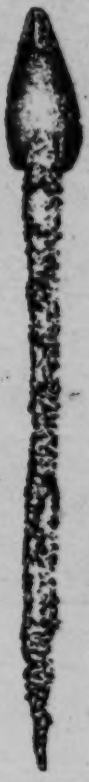

Figure 156. Arrow head, with rubbed slate point, found on Victoria Island. IV.D.1819. Approx. 1/2.

In 1939, Mr. Lincoln Washburn presented to the National Museum of Canada two old slate-pointed arrow heads that had been picked up on Victoria Island.[1] The points were wedged without rivets into rather flat antler foreshafts, one being at right angles to the axis of the shaft, the other parallel with it. Each shaft bore a single barb and terminated in a sharp tang that seemed to lack knobs, but one shaft had been made from two pieces of antler deftly

[1] He added the information that near Holman Island, at the entrance to Prince Albert Sound, in an outcrop of a slate rock that the natives assert was once used for arrow points and knife blades.

scarfed and spliced together with three copper rivets (Figure 156). Both were deeply encrusted with lichens, and were evidently of considerable antiquity. Probably they were made by ancestors of the present-day Copper Eskimo. On the other hand, it is not at all impossible that they are arrow heads of the earlier "Thule"-culture inhabitants who have left other remains in the region. The use of copper rivets does not rule out this possibility, because copper-bladed women's knives with typical "Thule" handles have been recovered from an old stone house on Victoria Island and from a stone grave on the neighbouring Read Island, along with harpoon heads and other objects of typical Thule (North Alaskan) types. There are good grounds for believing, therefore, that the ancient Thule population itself used the local deposits of copper and passed on its knowledge to the ancestors of the present-day Copper Eskimo when the latter migrated into the area.[1]

In 1914 arrows with long antler points that fitted directly into the wooden shafts were fairly common; some had no barbs, others one or more along one side. Much more common, however, were arrows with separate blades of bone, copper, or iron that riveted into antler foreshafts, or were provided with long shanks that took the place of foreshafts. Points of bone were rare; about 65 per cent were of copper and the remainder of iron, hammered into the same shapes as the copper ones. These shapes, and also the methods of splicing the wooden shafts when made of two or more pieces, have been rather fully illustrated by Stefansson.[2] Individuals may have preferred one type of point to another for certain game, but so far as I could discover they used all types more or less indiscriminately.

The Copper Eskimo used the Mediterranean release, holding the bow almost horizontal. They generally feathered their arrows with goose, loon, eider duck, or snowy owl quills, but did not disdain quills from other birds. Normally, two feathers only were used on each arrow, but occasionally three, for no special reason that I could discover. The hunter cut off on his trimming board all the barbs along one side of the feather, smoothed the rough quill with his knife, grooved the arrow shaft with the special tool for that purpose (or, if he lacked this tool, split it slightly with his knife), and lashed the two ends of the feather in the grooves with caribou sinew. This was the usual way of feathering. Occasionally, however, he merely trimmed the barbs a little on both sides and fastened the feather flat against the shaft. There was also a third method, in which two half feathers, i.e., feathers from which the barbs on one side had been removed, were lashed around the end of the shaft spirally, end to end, and the barbs spread fanwise. I saw a man feather an arrow for his young stepson in this way and was told that it was a rare method, never employed on arrows intended for serious use.

Bow-case, Quiver, and Tool Bag

The bow-case (Figure 157), which was made of sealskin to keep out water, was shaped to the form of the weapon; one end was closed, the other left open for some distance down its curved edge to permit the insertion of the bow. To close the opening when the bow was in place there was a short cord of plaited sinew whose loose end was tucked under the lashing, leaving the tip protruding so that it could be unfastened at a single jerk. A quiver with or without a cap was sewn or buttoned to the straight edge of the case; and a tool bag was also sewn to the case in such a way that the quiver, when carried on the back, lay on top of it and prevented its contents from falling out. Often, too, there was a sheath

[TEXT CONTINUED ON PAGE 128]

[1] Mathiassen found a little copper in the old Thule site at Naujaat, on the west coast of Hudson Bay (Reports of the Fifth Thule Expedition, vol. IV, pt. 1, pp. 14, 15 (Copenhagen, 1927)); and Graham Rowley discovered a small copper hook in a Dorset culture site near Ivujivik, some 200 miles further north. So far as we know today, this copper could have come only from the Coronation Gulf region.

[2] Stefansson, V.: Anth. Papers, Am. Mus. Nat. Hist., vol. XIV, figs. 23-32 (1919).

small birds, principally ptarmigan; hence these toggles were called *aqargiqsiutit:* "ptarmigan appliances" (Figure 161).

A bone or musk-ox horn handle (*neruminiaq*), fitted with a short strap of plaited sinew (Figure 162), was sometimes kept in the tool bag, but more often looped through some hole on the outside of the quiver or bow-case, or attached in some other way. Usually about 10 cm. long, of standardized shape, it was often grooved to fit the fingers in the same way as the blubber pounder and the whittling knife. This handle served on occasion to carry any small bundle, but was principally used for carrying the head of the caribou, or the bag containing its blood. From the latter use it acquired a second name, *auqtun* or "blood carrier".

Figure 160. Toggles sewn to bow-case. *a* for attaching the carrying strap, *b* for attaching the quiver. IV.D.1053, 91. 1/1.

The tool bag was often closed by lacing, for which purpose one end of a short cord of sinew was attached to the edge of the bag, and the other end to a small bone needle with which it could be threaded through the holes. When completely furnished, it contained the following articles.

Two marline-spikes for the bow lashings; two twisters for the bow lashings; one or more spare wedges to go under the lashings; feathers for the arrows, kept usually in a small bag of marmot or other skin; a small board for trimming the feathers; a grooving tool for attaching the feathers; a little caribou back sinew for lashing the feathers, splicing the arrows, sewing rents in clothing, etc.; spare parts of arrows for repairs; bone skewers for the carcasses of game; bone pins for the bag that contained the caribou blood; a wrist guard; a drinking tube; a needle-case and needle; a mattock for making a hunting pit (if too large for the tool bag this was carried in the quiver or even in the bow-case); an arrow straightener.

Very few tool bags, however, contained all these articles. The natives nearly always hunted together, and the deficiencies of one bag could be supplied from another. On the other hand, the tool bag often contained other articles, such as the whittling knife and the graver for cutting bone, which were more usually stored in a special tool bag at home, with the adze and the bow-drill. The bow adjuster, being large and cumbersome, was also left in camp.

Marline-spikes. Marline-spikes (Figure 163), which averaged from 6 inches to 10 inches long, were made of caribou or musk-ox bone. Some closely resembled marrow spatulæ and, at times, were actually used for extracting marrow, but their larger size, heavier construction, and the small hole below the handle instead of at the extreme end distinguished them from the ordinary spatulæ. This hole enabled them to be lashed in pairs, because two were required to unfasten and tighten the back lashings of the bow. One cord often fastened together the two marline-spikes and the two twisters, which also went in pairs. The handles of marline-spikes were frequently grooved for the fingers on one edge, and sometimes on both. Ornamentation, however, was rare, and when it did occur, consisted merely of a few incised lines or the ring-and-dot pattern.

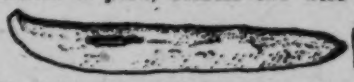

Figure 161. Bone toggle attached to either bow-case or quiver for pinning through ptarmigan wings. IV.D.1029. 1/1.

Twisters. The twisters (Figure 164) were much shorter than the marline-spikes to which they were usually attached, although they were made of the same material, and also used in pairs. All had the same unvarying shape, a flattened

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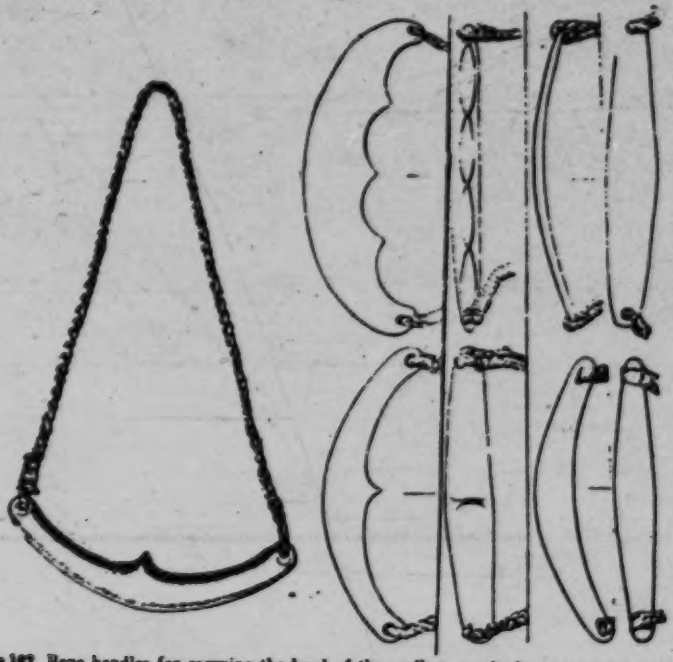

Figure 162. Bone handles for carrying the head of the caribou, or the bag containing its blood. IV.D.548, 198, 1428, 1860. 1/2.

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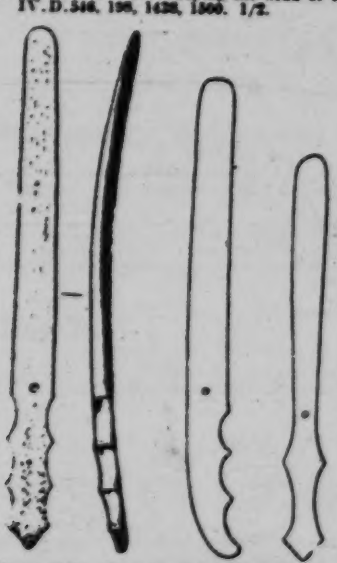

Figure 163. Bone marline-spikes for the bow lashings. IV.D.1508, 1329, 1510. 2/3.

Figure 164. Bone twister for the bow lashings. IV.D.1288. 1/2.

stick 4 inches or so in length turned up at the ends in contrary directions, and with a small hole in the middle to lash them together. No ornamentation was observed on any of these implements.

Wedges. Figure 154 shows a typical wedge, a flat square of wood, bone, or rawhide for inserting under the back lashings of the bow. Some had holes through the middle so that they could be tied to the bow-case.

Figure 165. Wooden board for trimming arrow feathers. IV. D.103. 2/3.

Figure 166. Bone instrument for feathering arrows. IV.D.1823. 1/1.

Board for Trimming Feathers (Figure 165). Any flat piece of wood served for trimming the feathers. The board in the tool bag was usually from 4 inches to 5 inches long and from 1 inch to 2 inches wide.

Grooving Tool. The grooving tool for attaching the feathers to the end of the arrow shaft was generally the hollow wing bone of a large bird bevelled off at one end like a chisel (Figure 166). Hunters who lacked a proper grooving tool sometimes used the marline-spike.

Spare Parts of Arrows. These consisted of broken shafts and heads that could be used in mending; scraps of bone or antler, and pieces of copper, to be worked up later into arrow heads.

Bone Skewers. The Copper Eskimo hunter had two sets of bone skewers, one for pinning up the carcass of the caribou, the other for closing the harpoon wounds in seals. It was only the former, which were usually a trifle longer and of slightly different shape, that he carried in the tool bag on his bow-case. Most of them were fashioned from caribou leg bone, and resembled rounded pencils

412 414 321 about 6 inches long that tapered to rather blunt points, and had rounded or conical knobs at their heads so that they could be fastened together in pairs, either tied with sinew or, more often, pushed through holes in a small strip of sealskin. If knobs were lacking, small holes were drilled for tying them together (Figure 167).

412 414 32 224 [415] *Bone Pins* (for the blood bag). The hunter generally collected the blood of the caribou in the reticulum of the stomach, which is shaped like a pouch. To close this pouch he carried in his tool bag two or three thin round pins of bone, rarely of wood, that ranged in length from 2½ inches to nearly a foot. The points were usually rather sharp so that they would penetrate the reticulum without tearing a large hole; and the heads were shaped in various ways, so that many blood pins were indistinguishable from the needles used to lace together the front of a tent (Figure 168). Some were quite plain, others had small knobs or were bevelled off like a marrow spatula; but a favourite form had two or even three projecting points, which were useful for keeping the mouth of the bag open when pouring the blood into it. Many hunters fastened their pins in pairs, like the meat skewers, the twisters, and the marline-spikes. A man who had no pins, tied inside the mouth of the blood bag a wooden plug such as is shown in Figure 169.

Figure 167. Bone skewers for pinning up a caribou carcass. IV.D.490, 1338. 1/2.

411 [531] [97] *Wrist Guard.* Archer's wrist guards (Figure 170) seemed to be universally of bone, and never to vary from an oval outline. The fine carving and engraving that appears on wrist guards east and west of this area was unknown to the Copper Eskimo, where one specimen was typical of all.

415 237 *Drinking Tube.* The drinking tube, though normally carried by the hunter only, was used by his entire family when travelling overland in summer with all its possessions. It was simply the hollow leg bone of some bird, usually a swan, not ornamented or marked by any special features. Many were indistinguishable from the needle-cases often found in the same tool bag (Figure 171).

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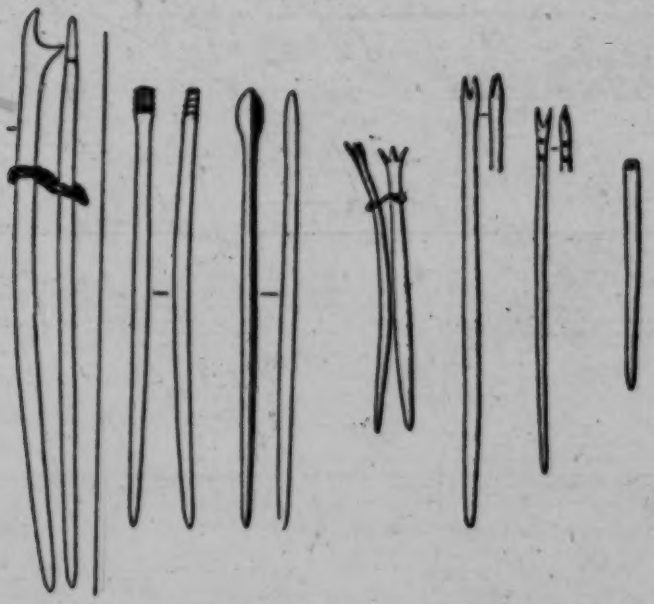

Figure 168. Bone pins for fastening the blood bag. IV.D.1048, 830, 221, 222, 1343, 1317, 600. 1/2.

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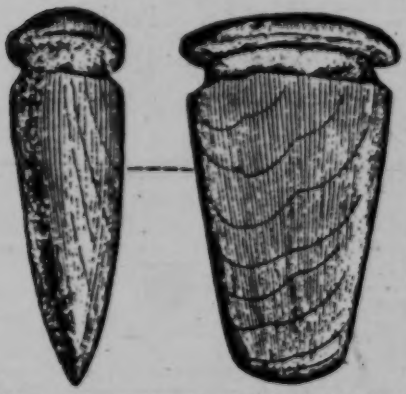

Figure 169. Wooden plug for closing the blood bag in the absence of a skewer. IV.D.1031. 5/4.

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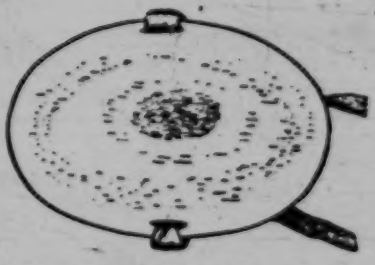

Figure 170. Archer's bone wrist guard. IV.D.300. 1/1.

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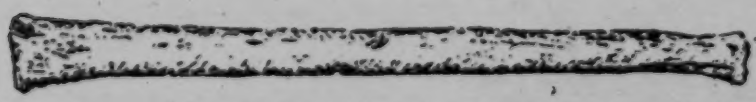

Figure 171. Bone drinking tube. IV.D.324. 1/1.

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Needle-case (*See* page 90). Rarely, as in Figure 157, this was attached to the bow-case.

Mattocks (*See* page 104).

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Figure 172. Arrow straightener. IV.D.216. Approx. 2/3.

Arrow Straightener and Bow Adjuster. Arrow straighteners are shown in Figures 172 and 173. Invariably they were made from bone or antler, and the hole through which the arrow shaft passed was bevelled at front and back. There was considerable variation in the shape of this hole; in some specimens it was almost circular, in others triangular; but the lozenge form so characteristic of North Alaskan arrow straighteners seemed conspicuously absent. The specimen shown in Figure 173 is remarkable because its owner, by making the hole rectangular and slightly hollowing the front two corners, adapted his tool for straightening two shafts at the same time. In another specimen the hole is highly polished, suggesting that the implement may have served also for smoothing rawhide thongs. However, I never saw an arrow straightener employed for that purpose, although the Copper Eskimo, unlike their kinsmen in Hudson Bay, did not possess a special tool for smoothing thongs.

Figure 173. Arrow straightener, of antler. IV.D.186. Approx. 2/3.

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322 The bow adjuster (Figure 174) resembled the arrow straightener, but was necessarily much larger and for that reason made of wood. The slot was always rectangular, and it was bevelled on opposite sides, and on both faces, to produce

28: Jenness E-5 (1914-1916) 1946
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CHAPTER V

MISCELLANEOUS

493 [494] *Sleds.* Copper Eskimo sleds had neither side pieces nor handles, but consisted merely of two stout runners joined by a number of crossbars. They averaged in length 14 or 15 feet, but some measured over 20 feet and others less than 4. Sleds under 10 feet in length, however, were rather uncommon; being too short to carry all the household furniture, they served for short trips only, for transporting goods to and from the caches, and, when the family was blessed (or cursed) with many possessions, for relieving the main sled of part of its load.

493 313 [437] The most important parts of a sled were naturally the runners, for suitable logs seldom drifted up on the shores and the forests lay many days' travel to the south. Consequently, both single runners and the completed sleds were valuable articles of trade, current from one end of the country to the other, and natives from remote districts made long journeys to the spruce woods on Coppermine River to manufacture sleds for themselves. Under these conditions, one neither expected, nor could I find, any significant differences in size or shape between the sleds of different districts. One typical of several that I measured had the following dimensions:

	Ft.	Ins.
Length	16	1
Number of crossbars	14	
Breadth between runners	1	8
Width of runners at top		2½
Width of runners at bottom		2
Height of runners		10
Thickness of bone and mud shoeing		2

493 321 The runners of this sled had been shod with bones from a whale that drifted ashore near the eastern end of Dolphin and Union Strait; but the great majority lacked both this bone shoeing, and the shoeing of decayed driftwood that has been described by Stefansson,[1] though it escaped my own observation.

493 823 The same writer says that "In the fall, when the sled is to be used sod is cut in strips as long as convenient and about three inches thick and four inches wide. Lengthwise, along the flat side of these is cut a groove the width of the sled runner and the sod is put under the runners as shoeing. With a little water these are securely frozen to the bottom of the runners, the fuss of the half-decayed wood holding them securely. The bottom of the runners is then rounded off with an adze or knife so the sod takes the form of a longitudinally bisected cylinder."

[114] I myself did not see this method of cutting and attaching the mud. The natives with whom I travelled on Victoria Island in the autumn of 1915 dug up their mould with mattocks, shredded it inside their snow-huts to remove the roots (which would tend to produce cracks), mixed it with water, and kneaded it into soft balls, each rather larger than a baseball, which they laid along the bottoms of the runners, kneaded together, and smoothed, first with their hands, then, after the mud had frozen, with their snow knives. A few weeks later they patched this shoeing in exactly the same way, after it had been chipped by sharp upstanding stones during their overland journey to the coast. Thenceforward it lasted throughout the winter, although every time a sled was used

[1] Anth. Papers, Am. Mus. Nat. Hist., vol. XIV, p. 73.

its owner streamed water over the mud to produce the thin coating of ice that reduced friction to a minimum.[1] By the end of April, however, it required protection from the growing warmth; the Eskimo, therefore, draped the sunward sides of their sleds with skins when in motion, and piled snow over the runners when at rest. In May even this protection failed them; gradually the mud melted and fell away.

The tops and bottoms of the runners were roughly parallel except in front, where the bottoms curved upward like a ski. Spaced about a foot apart were the flat crossbars, each lashed down at the ends with a rawhide thong that passed two or three times over the bar and a corresponding number of times through a hole in the runner below. To the front crossbar was attached also the toggle that bore the strain of the traces, a "new-moon-shaped" object of musk-ox horn, slotted in the middle and suspended between the runners by means of a belt of stout rawhide, preferably from the skin of the bearded seal (Figure 177); each end of the belt passed from the inside through a special hole in the runner below the front crossbar and then "button-holed" over the projecting end of that bar. There seemed to be no variation in the shape of this sled toggle, nor did I see any that were not made of musk-ox horn, which indicates that the animals were comparatively numerous a few years ago within the territory of the Copper Eskimo.

Figure 177. Sled toggle, of musk-ox horn. IV.D.101. Approx. 1/4.

In the late spring and early summer, when a sled was difficult to drag over the numerous patches of bare ground, the Copper Eskimo commonly substituted the skin of a seal or polar bear, which glided with much less friction over soil and stones. In the autumn, again, before recovering the sleds they had abandoned late in the spring, they sometimes fashioned runners from skins, which they held in shape with fillings of willow branches and ice, and equipped with crossbars in the usual manner. On one occasion a native even used a block of ice for a sled; he merely rounded the bottom a little and grooved the front end for the attachment of his trace.

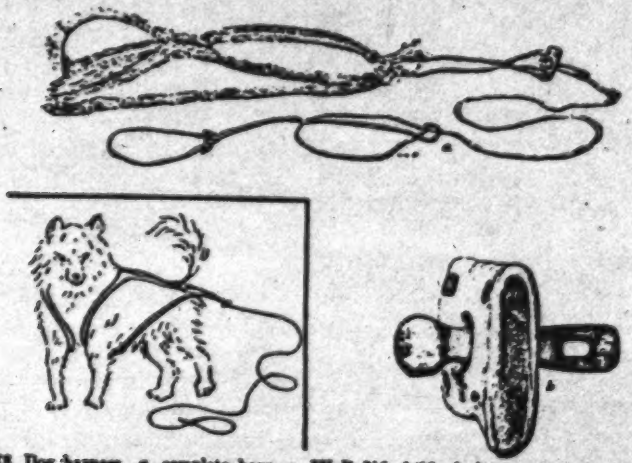
Two Eskimo who travelled from Backs River to our station in the winter of 1915-16 dragged sleds that were longer, narrower, and with lower runners than any I saw among the Copper Eskimo, but in all other respects seemed identical. One of them had a square sail of dehaired caribou hide mounted near the front to take advantage of the favourable wind; this, of course, was not an aboriginal invention, but reflected the influence of Europeans.

Sleds rarely carried any ornamentation. We observed only two instances, both of which consisted of a simple Y pattern painted in red and black on the sides of the runners where they began to turn upward.

Harness. Like other Eskimo previous to European contact, the natives around Coronation Gulf hitched their dogs to the sled fanwise, with individual

[1] See Reports of the Can. Arct. Exped., vol. XII, pp. 116, 118. The Copper Eskimo never mixed blood with the victim, as was commonly done by their countrymen farther to the east.

492 [281] traces 15 to 40 feet long that looped over the sled toggle and could all be released simultaneously. The harness, shaped as in Figure 178a, was of skin, nearly always the leg skins of the caribou with the hair left on. The loops that passed around the dog's forelegs joined across the shoulders and again below the throat, usually by short yokes, to produce a loop for the head. Two strips of skin then ran backward from the neck yoke, and one from each leg loop ran upward, their ends coming together, in a properly fitted harness, just over the root of the tail, where they were lashed in pairs with rawhide and the rawhide [321] fastened to a slot in the pin of the trace toggle. This trace toggle (Figure 178b), made of bone, antler, or musk-ox horn, invariably contained two parts, a pin knobbed in the rear and slotted in front, and a square plaque with one large round hole in the middle for the insertion of the pin, and a smaller hole in each of the four corners for the attachment of the trace. The pin turned freely in the plaque and kept the trace untwisted however often the dog rolled over and over on its back; and the knob at one end, the rawhide lashing at the other, held it securely in place.



[321] →

Figure 178. Dog harness. a, complete harness, IV.D.816, 1/16; b, bone swivel for the trace, IV.D.193, 3/4.

When not in use harnesses were commonly stored on the roofs of the snow-houses but in summer the dogs wore them continually, for the long traces served to hold on the back-packs, and, in camp, to attach the animals to stones. Often their hungry wearers tore them to shreds; or the harnesses broke and were [281] patched together again. In one such emergency a woman devised a makeshift harness from a broad strip of sealskin; she slit it in three places, inserted the dog's head through the middle slit and a leg through each of the other two, tied the corners of the skin to the trace, and started the day's journey undismayed.

483 The harness worn by the Eskimo himself when hauling on the sled had a similar trace to the dog harness, and was hitched to the sled toggle in the same manner, but it consisted merely of a broad band of sealskin, less often caribou skin, that passed over the chest, and was lashed to the end of the trace without any intervening toggle (Figure 179). Women and children pulled in front of 492 the dogs, men behind. The Copper Eskimo did not use whips, but the men often urged on their teams with walking-sticks. Most families had only from two to 231 three dogs, none more than five, owing to the difficulty of feeding the animals.

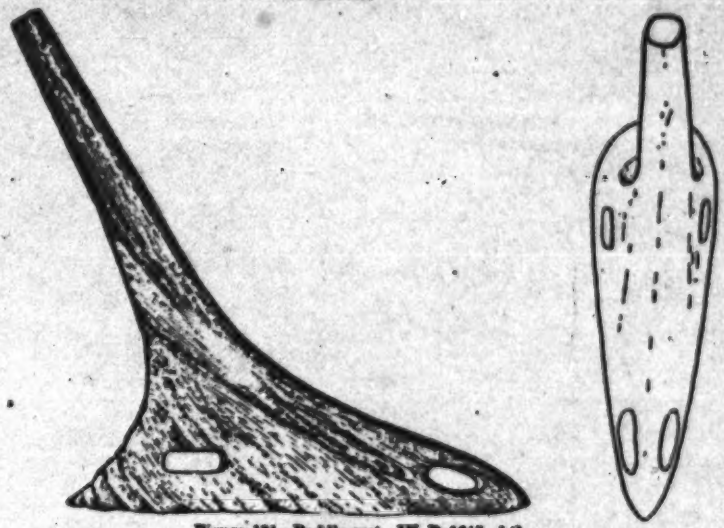
501 in most districts he used it so seldom that he either disposed of it after a year or two, or else broke up its frame and employed its wood and skin for other [422] purposes. At the time of our visit not one man in ten owned a kayak, or even the frame of one. Around Dolphin and Union Strait I saw only two kayaks, one of them owned by a Victoria Island native, but they became progressively more numerous as one travelled east to Bathurst Inlet. They kept the same shape everywhere, although they differed in length; and the frame was invariably 501 of spruce wood, the covering of sealskin. Generally they were longer, and, in 171 proportion to their length, narrower than kayaks to the westward. They lacked, also, attachments for a sealing harpoon or bird spear, and their bows and sterns had neither eyelets nor projecting horns to facilitate their transport on sleds. In Mackenzie Delta nearly every kayak bore an upstanding horn at each end, and along the Arctic coast of Alaska as far as Barrow, if not beyond, it was usual to have an eyelet in the bow and a horizontally projecting horn in the stern. Below are the measurements of five kayaks, two from Arctic Alaska, two from Mackenzie Delta, and one from Victoria Island within the territory of the Copper Eskimo.

—	Arctic Alaska		Mackenzie Delta		Victoria Island
	Ft. In.	Ft. In.	Ft. In.	Ft. In.	Ft. In.
Total length	15	13 3	15 8	15 10	21 7
Greatest breadth	1 6	1 6	1 7½	1 6	1 3½
Distance of opening from stern	6 5	5 8	7	7	8 6
Depth of opening in front	1	1	11	1 2	1 2½
Depth of opening behind	9½	9	6¼	8	7
Diameter of opening	1 4 by 1 6½	1 11 by 1 3½	1 4½ by 1 6	1 6 by 1 6	1 6

501 In Copper Eskimo kayaks, bows and sterns were practically straight and the deck level, except just forward of the opening for the paddler, where the front of the gunwale, as usual, was raised by an angular arch. This gunwale was formed by two circular hoops of wood that bound the skin covering between them and were tightly lashed together with sealskin thongs through holes near their rims. Lashed to the deck a few inches in front of the hole was the paddle [321] rest (Figure 181), an L-shaped piece of bone with the upstanding "horn" tilted slightly backward; by resting the middle of his double-bladed paddle against this horn, the hunter obtained greater leverage. I saw no other attachment to a kayak, and was told that the hunter who carried a lance merely pushed its [126] butt under the lashings of the paddle rest. From Capt. J. Bernard, however, I [237] obtained the curious baleen object illustrated in Figure 182, which he stated had been used in some way on a Coronation Gulf kayak. Possibly it supported the skin deck, its two triangles fitting on the gunwales; or it may have been fastened on the deck and lances thrust through the triangles.

501 Figure 180 shows the wooden paddle of the kayak illustrated in the same 321 drawing. It is 11 feet long, ridged at each grip, and edged with bone on the two 322 blades. The bone is grooved to fit over the wood and secured with antler rivets that in three places have fallen out and have been replaced by iron nails. Over each of the two ridges is a sealskin ring three-quarters of an inch in diameter, made by coiling a thong of sealskin around a base of the same material; it kept 501 the water from dripping down the blade onto the paddler's hand. Having seen in the Coronation Gulf area only two other paddles, which I did not examine

closely, I cannot say whether or not this specimen is typical. One thing is certain, however, the Copper Eskimo never used the single-bladed paddle that is now so common in the western Arctic. 501



[321]

Figure 181. Paddle rest. IV.D.1645. 1/1.

As the kayak was useless in winter, the Copper Eskimo hunter commonly stripped off its skin covering and cached the frame in some convenient place, weighting it down with a few stones. One man cached his frame near the headquarters of our expedition, where I might have studied its construction in detail; unfortunately, I let the opportunity pass. If a hunter desired to cache his kayak during the summer months, when its skin cover might be torn to shreds by dogs and foxes, he sometimes raised it on stone pillars. Two such pillars on Victoria Island, built of flat slabs of dolomite, stood about 5 feet high and about 6 feet apart.

[126]
[237]

Figure 182. Kayak appliance, of baleen. IV.D.1647. 1/2.

PASTIMES

The pastimes of the Copper Eskimo have been described in Report of the Canadian Arctic Expedition, vol. XII, ch. XVII. Only two or three of them required specially made apparatus. 524

Cup and Ball. For the "cup and ball", or "ring and pin" game, as it is variously called, the Copper Eskimo invariably used the humerus of the bearded seal. They drilled one hole through the centre of the smaller end, but in the larger end as many as possible, even continuing them at times down one or both faces. Figure 183 shows a typical specimen. 524 321

524
321 Stefansson[1] has illustrated a specimen made from the scapula of a seal. This is a common type in north Alaska and in Mackenzie River basin, but I never saw it among the Copper Eskimo. Either it was extremely rare there, or its ascription to Coronation Gulf is a mistake.

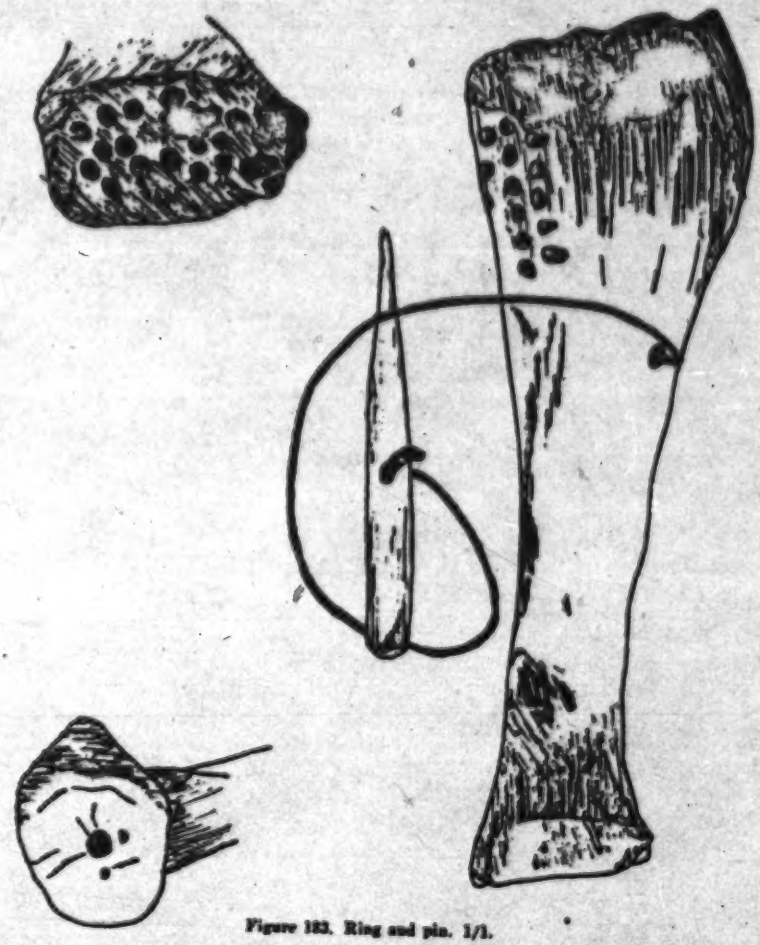


Figure 183. Ring and pin. 1/1.

524
534 *Bull-roarer.* This was an uncommon toy, used only by children. I saw only one specimen in 2 years (Figure 184), and that was small and crudely made. The deep notch in the base suggests the bifid tail of a fish.

534 *Drums.* The Copper Eskimo drum or tambourine was much larger and heavier than that used in the western Arctic, and the drumstick a short, heavy baton instead of a slender wand. Any wood that could be bent into a hoop

[1] Stefansson: op. cit., fig. 91, p. 123.

531 curved lines apart from circles unless they were conditioned by the curved surfaces of the objects on which they were engraved, as was the case with Figure 187a.[1]

532 A few bone carvings, all very crude, are illustrated in Figures 135, 126. The only naturalistic forms are the bird figures attached to the needle-case
32 in Figure 95. Among a child's toys was a figure of a loon carved from antler,
[524] and a tiny antler box with wooden bottom that represented the bird's nest (Figure 188).

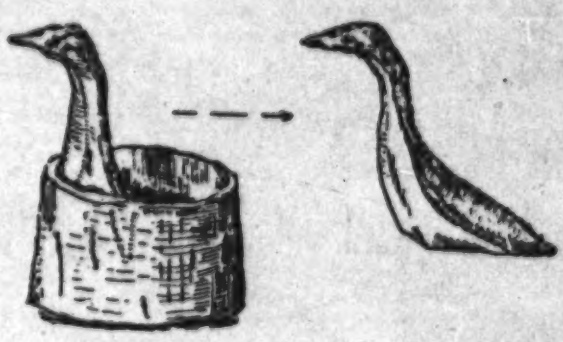


Figure 188. Bone carving. IV.D.605. 1/1.

532 Noticing that children frequently outlined with their knives, in the hard
826 snow, figures of human beings or their clothing, I distributed a number of notebooks and pencils and asked both adults and children to fill them with
12 sketches. The new pastime amused them, and they quickly furnished me with about a hundred drawings of men and women in which the faces and hands received far less attention than the details of the tattooing and clothing. Those natives whom I watched began indifferently at the shoulder or the foot, and moved the pencil back and forth in every direction with no more dexterity than we expect from a 2 or 3 year-old child, and the results (Figure 189) were not
[825] dissimilar. Their drawings of animals such as the caribou, every part of whose anatomy was as familiar to them as their own, were even cruder; and how a map could indicate the geographical features of a country seemed beyond their comprehension. Evidently the sketching of scenes, like writing, was a totally new concept to them; yet I cannot believe that they lack talent, or that the second or third generation from today will not show as much proficiency in drawing as other Eskimo.

KNOTS

284 The Copper Eskimo made use of several different kinds of knots, all, except perhaps one, familiar enough to Europeans; but whether they had special names for them I did not discover. To finish off the end of a braid of sinew, or knot the end of a line, they used the common thumb knot; the "figure of eight" appeared to be unknown. Two lines were generally joined by the reef knot, but if one had a loop at the end a single sheet bend was employed. The loop itself might be made in two ways, by cutting a small slit in the end of the sealskin thong and passing the other end through it, thereby producing a kind of slip-

[1] A pair of men's outer trousers, collected by Captain Collinson at Cambridge Bay in 1853 and now in the British Museum, is decorated with a "column" of chevrons, the only instance I have seen of this design.

[TEXT CONTINUED ON PAGE 148]